

DOCUMENT RESUME

ED 249 869

HE 017 770

TITLE Higher Education in Norway. Monographs on Higher Education.

INSTITUTION United Nations Educational, Scientific, and Cultural Organization, Bucharest (Romania). European Centre for Higher Education.

REPORT NO ISBN-92-3-102184-2

PUB DATE 83

NOTE 75p.

AVAILABLE FROM European Centre for Higher Education, UNESCO-CEPES, 39, Stirbel Voda St., R-70732, Bucharest, Romania.

PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC03 Plus Postage.

DESCRIPTORS Adult Education; College Administration; College Admission; *College Faculty; College Libraries; College Students; Course Content; Educational Finance; *Enrollment Trends; Expenditures; *Foreign Countries; Foreign Students; *Higher Education; Public Education; Research; School Organization; Student Financial Aid

IDENTIFIERS *Norway

ABSTRACT

The system of higher education of Norway is described. After tracing the history and present structure of the Norwegian higher education system, information is provided on: the administrative structure, staff, costs, library service, the content and organization of courses, research in higher education, adult education, teaching and evaluation methods, admission regulations, financial aid and social welfare measures for students, and foreign students. Information is presented on: regional distribution of higher education institutions, 1971-1979; number of colleges according to type and region, 1979; student enrollments according to region and type of college, 1979; student enrollments at universities, regional colleges, and colleges of education, 1938-1979; the number and percentage of 19- to 24-year-olds who are students; the ownership of higher education institutions; teachers in full- and part-time posts according to type of institution and type of position; public expenditures for higher education; and expenditures for research and development by sector. Appendices include a list of higher education institutions by county for 1981; and data on university and college graduates for 1971/1972-1978/1979. (SW)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED249869

HE017 77d
PCL C1017

MONOGRAPHS ON HIGHER EDUCATION

Higher Education in Norway

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY"

CEPES

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- ☒ This document has been reproduced as
received from the person or organization
originating it.
☐ Minor changes have been made to improve
reproduction quality.

• Points of view or opinions stated in this docu-
ment do not necessarily represent official NIE
position or policy.

unesco

CEPES

European Centre for Higher Education

CEPES is the acronym for CENTRE EUROPEEN POUR L'ENSEIGNEMENT SUPERIEUR (European Centre for Higher Education). It is an integral part of the Unesco Secretariat, with headquarters in Bucharest.

The Centre was created in 1974 to contribute to the development of higher education in the 37 Member States of the Europe Region (including Canada, USA and Israel), by promoting international co-operation in this field.



CEPES

CEPES works in three main domains: information, communication and co-operation:

- it gathers processes and disseminates information in different forms (the quarterly journal *Higher Education in Europe*, studies and monographs on national systems of higher education, and other specific topics);
- it organizes meetings, seminars and symposia and initiates or collaborates in joint studies on contemporary problems of higher education;
- it maintains relations with various organizations and institutions, both national and international, governmental and non-governmental, which are concerned with higher education.

ISBN 92-3-102184-2

© UNESCO 1983

UNESCO

Higher Education in Norway

CEPES
Bucharest 1983

TABLE OF CONTENTS

	<u>Page</u>
Foreword	5
I Historical Survey	7
II Administrative Structure	18
III Staff	21
IV Costs	25
V Library Service	28
VI Content and Organisation of Courses	31
Degrees	31
Courses	32
Studies and introduction to research	33
Research assistants	33
Regional Colleges	34
VII Research as Part of the System of Higher Education	37
VIII Adult Education	42
IX Methods of Teaching and Evaluation	44
X Admission Regulations	50
XI Financial Help and Social Welfare Measures for Students	52
XII Foreign Students in Norway	56
XIII Concluding Summary and Future Perspectives in Higher Education	62
XIV Appendixes	65
Annex 1. County-by-county survey of higher-education institutions in Norway in January 1981 (list of institutions)	68
Annex 2. University and College graduates 1971/72—1978/79	71
Annex 3. Administrative Map of Norway	72

FOREWORD

It is a pleasure to bring this monograph on Higher Education in Norway, the fourth in CEPES's series on national systems of higher education, to the attention of the reader.

The Norwegian system as such is a blend of Anglo-Saxon university structures, some Germanic inputs and the local geographical, industrial and social configurations that have undergone considerable change by innovative and well-adapted measures promoting democratization and increasing system efficiency.

The post-war period gave higher education in Norway a considerable boost in terms of funding, staff recruitment, students enrolled and institutions opened. Since then, the system has gone a long way, slowly but steadily, towards transforming traditional structures of teaching and learning in order to make them fit the modern needs of society and science. Educational opportunities were multiplied, and new institutions, organized in differing ways with differing student clientèles, were set up. The number of courses of study has been greatly diversified while at the same time certain subject boundaries have disappeared to make way for some interdisciplinary studies. At the same time, studies have adopted a more professional character. In this respect, the Regional Colleges must be regarded as a particular answer to local industrial and social needs, with emphasis on in-service training, refresher courses and adult education.

Another element worthy of distinction is the recent liberalization of access to higher education which thus qualifies adults from all walks of life to enter higher education institutions by way of their own professional experiences.

HIGHER EDUCATION IN NORWAY

It is a pleasure for us to express here our deep gratitude to the Norwegian Ministry of Church and Education which was so kind as to draft the text and to provide us with the necessary documentary material. The final manuscript has been edited by W. Vollmann. We are sincerely convinced that this monograph will interest all those concerned by higher education in Europe.

F. EBERHARD
DIRECTOR CEPES

HISTORICAL SURVEY AND PRESENT STRUCTURE

The last few decades have seen a comprehensive process of extending and restructuring the Norwegian educational system at all levels. Compulsory education for nine years superseded the old seven-year elementary school in the 1960s, and in the 1970s extensive reforms were carried out within the fields of upper secondary and higher education. In the first instance, attention was focused on the problem of capacity, but the need for reorganisation of educational opportunities to meet more satisfactorily the demands of society and of potential applicants became increasingly urgent.

Here we shall present a survey of the system at the level of higher education, including its historical development and the agreed new structure which today is in the process of taking shape.

Higher education was formerly synonymous with academic education at a university or college of higher education. Our academic traditions do not go back very far. Not until the beginning of the last century did Norway get its first university.

The University of Oslo is the oldest and the largest university in this country. It was founded in 1811 and began its activities in 1813. Up to 1946 it was also the only university in Norway. The University of Oslo has a total of seven faculties, and the range of courses offered covers all the traditional university subjects. However, over the years a number of academic educational institutions have come into existence. In keeping with the Central European university tradition, the modern vocational academic courses of study were organised in their own specialised colleges. Toward the end of the 19th century and in the early part of the 20th century, autonomous colleges were established for agricultural subjects, veterinary medicine, dentistry, technology, commercial subjects, education and sports. This form of organisation

of the higher-education institutions led to rather pronounced isolation of the individual academic environments and was an obstacle to furthering interdisciplinary co-operation. On the other hand, the establishment of these colleges of higher education meant that academic educational institutions were geographically more widely spread than would have been the case with a more integrated organisation of the various courses of study. The Norwegian College of Agriculture was placed in Ås outside Oslo, the Norwegian College of Economics and Business Administration was established in Bergen, the Norwegian College of Advanced Technology and the Norwegian College of Education in Trondheim, and the remaining colleges of higher education in Oslo. In 1959 the Norwegian College of Dentistry was incorporated into the University of Oslo as a separate faculty with a relatively independent status.

The University of Bergen was founded in 1946. The Bergen Museum then became part of the university, while the Norwegian College of Economics and Business Administration continued as an independent institution. Today the University of Bergen has six faculties: Arts, Natural Science, Medicine, Social Science, Psychology and Dentistry. In addition there are the Departments of Law.

The University of Trondheim was created in 1968 as an umbrella over the existing institutions: the library and museum of the Royal Society of Science, the two colleges of higher education already mentioned, the Norwegian College of Advanced Technology and the Norwegian College of Education. The courses of study offered by the university today include architecture, civil engineering, science, arts, social science and medicine.

The University of Tromsø is the youngest university in this country. It was founded in 1968 with the particular aim of strengthening post-secondary education in the north of Norway and helping to increase the supply of qualified academic manpower in this part of the country. The former Tromsø Museum and the Northern Lights Observatory have become part of the university, and Troms County Hospital is associated with the university as a teaching hospital. The first students at the University of Tromsø began studying philosophy in 1971. Today the range of subjects offered includes medicine, science, social science, industrial fishing and the postgraduate certificate in education.

For the teaching of advanced industrial fishing, a pragmatic and unconventional solution was found for the organisation of the course of study based on the needs of the industry and factors connected with regional development policy. An independent college of industrial fishing was established in 1972 with its administration centred in Tromsø. The teaching, however, is provided by the University of Tromsø, the University of Bergen, the Norwegian College of Economics and Business

HISTORICAL SURVEY AND PRESENT STRUCTURE

Administration in Bergen, and the Norwegian College of Advanced Technology at the University of Trondheim. We have thus secured a geographical spread of the academic milieu within the teaching of and research into industrial fishing. This is especially important in an industry which is to such a great extent conditioned by geographical considerations and which in our country is spread over a long coastline.

Within the field of higher education in general, the task of ensuring geographical distribution of educational opportunity has been one of the major aims of Norwegian educational policy.

In 1965 a special committee was appointed to report on the need for expansion and to propose overall solutions in the area of higher education.

Outside the universities and the colleges of higher education there already existed various post-secondary educational institutions covering a wide range of subjects. We may mention, for instance, colleges of education, colleges of engineering, social studies colleges, courses for students offered by technical schools, and colleges for librarians, journalists and artists. In the case of some of these kinds of colleges there was relatively good geographical distribution but there was still nothing one could call planned regional development of higher educational opportunity.

The Further Education Committee put forward a proposal for the co-ordination and integration of all higher education outside the universities. The committee's idea of organisational integration of the different paths of study which is concentrated in large educational centers in the regions has been modified, but some of the committee's suggestions have been followed in the subsequent political and practical activity. To ensure a satisfactory geographical distribution of educational opportunity, the country has been divided into 17 regions. On the whole, the division into regions follows county boundaries, except that two of the regions each comprise two counties. Within each region, a regional college has either been established or is at the planning stage. The first three were created in 1969. By 1980 regional colleges had been established in ten more regions. Following a trial period during the first years, the regional colleges took their place as a permanent and important part of the system of higher education. The regional colleges offer relatively short higher education, usually extending over two years. Courses are based partly on existing syllabuses at the universities and partly on completely new syllabus designs. The regional colleges provide a combination of vocational courses and fundamental university subjects. In addition, each region also has a varying number of formerly existing vocational colleges. Thus, every region has an organizationally differentiated and, to a varying extent, decentralized range of educational provisions. A Regional College Steering Committee has been established in each region with the responsibility of planning and co-ordinating all higher education in the region outside the universities.

HIGHER EDUCATION IN NORWAY

The following table gives a survey of higher-education institutions in each region for the years 1971-79. The figures also include existing private institutions :

Table I. 1

Regional distribution of higher-education institutions in the years 1971-79

Province	Region	Population at 31.12.79	Number of educational institutions				
			1971	1975	1976	1977	1979
Eastern Norway	Østfold	232,460	2	2	2	3	3
	Oslo/Akershus	821,543	43	50	50	52	63
	Hedmark	186,998	3	3	3	3	4
	Oppland	180,285	3	2	2	2	2
	Buskerud	213,608	3	3	3	4	5
	Vestfold	185,922	3	3	3	3	3
	Telemark	161,673	4	4	4	4	4
Southern & Western Norway	Agder	225,429	5	5	5	5	6
	Rogaland	302,396	7	6	7	8	10
	Hordaland (Bergen)	390,526	11	10	11	13	17
	Sogn & Fjordane	105,271	—	2	2	3	2
	Møre & Romsdal	235,719	5	5	5	5	5
Trøndelag	South Trøndelag (Trondheim)	243,709	8	8	8	9	13
	North Trøndelag	125,233	1	1	1	1	1
Northern Norway	Nordland	243,808	7	6	6	7	7
	Troms	145,996	4	6	6	5	6
	Finnmark	78,692	2	2	3	3	3
	Total	4,079,900	111	118	121	130	154
	Total private		34	28	29	27	41
	Total state		77	90	92	103	113

Source : NOS Educational Statistics. Universities and Colleges

There are higher-education institutions in every region, but their provision is heavily concentrated in a small number of regions, most particularly Oslo/Akershus. While this region contains a good 20% of the population of Norway, approximately 40% of the higher-education institutions are placed here. Oslo has always been the main center of higher education. This has long been due to the University of Oslo, which is the largest university in Norway and has had, and to some extent still has, the whole country as its catchment area, and it is also because of numerous other educational institutions of a vocational type which represent the only provision within their fields, for example the Norwegian College of Journalism, the State College of Librarianship, and the State College of Dispensers. In 1979 approximately 65% of the students in Oslo/Akershus came from outside the region. Geographical

HISTORICAL SURVEY AND PRESENT STRUCTURE

factors and ease of communication also mean close contact between Oslo/Akershus and the other regions in Eastern Norway. The pressure on higher-education institutions is particularly heavy in Eastern Norway.

Other regions which stand out as centers of gravity for higher education in their respective provinces are Hordaland, South Trøndelag and Troms, each which have their own university with Western Norway, Trøndelag and Northern Norway, respectively, as their major catchment areas. The Regional Colleges and the other colleges in the regions represent the more decentralised educational provision in the individual provinces.

Table 2 shows different kinds of higher-education institutions in the individual regions in 1979:

Table 1. 2.

Colleges according to type and region 1 Oct. 1979¹

	Total Instit.	Uni- versities ²	Regional Colleges	Colls. of Ed.	Colls. of Engine- ering	Colls. of Social Studies	Colls. Ad- van- ced Nur- sing	Mil- itary Colls.	Other Colls.
Østfold	3	—	1	1	1	—	—	—	—
Oslo/Akershus	63	8	—	11	2	3	3	6	28
Hedmark	4	—	1	2	1	—	—	—	—
Oppland	2	—	1	—	1	—	—	—	—
Buskerud	5	—	—	—	2	—	—	1	2
Vestfold	3	—	—	1	2	—	—	—	—
Telemark	4	—	1	2	1	—	—	—	—
Agder	6	—	1	2	2	—	—	—	1
Rogaland	10	—	1	1	3	1	—	—	4
Hordaland	17	2	—	4	2	—	1	1	7
Sogn & Fjordane	2	—	1	1	—	—	—	—	—
Møre & Romsdal	5	—	2	1	2	—	—	—	—
South Trøndelag	13	2	—	2	2	1	—	1	5
North Trøndelag	1	—	—	1	—	—	—	—	—
Nordland	7	—	1	2	3	—	1	—	—
Troms	6	1	—	1	2	—	1	—	1
Finnmark	3	—	1	1	1	—	—	—	—
TOTAL	154	13	11	33	27	5	8	9	48

Source: NOS Educational Statistics. Universities and Colleges

¹ From 1 January 1981 colleges of basic nursing and mental nursing will be classified as higher-education institutions. 28 colleges altogether.

² The term is used to include universities and specialised colleges of higher education of university level.

HIGHER EDUCATION IN NORWAY

The greatest degree of geographical spread is to be found in the case of the colleges of education and engineering. The regional colleges are still being developed. In 1979 a new regional college was established in Hedmark, and it is reckoned that North Trøndelag will have a regional college in operation from 1981. Funds have also been granted for the planning of a regional college in South Troms. At the present time the greatest increase in student places is in the regional colleges.

Today the capacity in the different regions and in the various types of educational institutions is as shown in table 3 :

Table I. 3.

Students according to region and type of college on 1 October 1979

	Total	Uni- versal- ties ¹	Regi- onal Col- leges	Colls. of Ed.	Colls. of Engi- neering	Colls. of Social Stu- dies	Colls. of Ad- van- ced Nur- sing	Mil- itary Colls.	Other Colls.
Østfold	1,258	—	178	596	484	—	—	—	—
Oslo/Akershus	32,414	22,162	—	3,416	1,052	624	283	234	4,643
Hedmark	1,092	—	48	1,018	26	—	—	—	—
Oppland	838	—	364	—	484	—	—	—	—
Buskerud	490	—	—	—	350	—	—	93	38
Vestfold	914	—	—	655	259	—	—	—	—
Telemark	1,603	—	649	673	281	—	—	—	—
Agder	2,278	—	1,102	659	464	—	—	—	53
Rogaland	2,306	—	879	653	367	244	—	—	163
Hordaland	11,654	8,667	—	1,546	777	—	16	218	430
Sogn & Fjord.	355	—	105	250	—	—	—	—	—
Møre & Romsd.	1,613	—	856	476	281	—	—	—	—
South Trøndel.	10,514	8,245	—	657	921	156	—	60	475
North Trøndel.	413	—	—	413	—	—	—	—	—
Nordland	1,629	—	374	843	397	—	15	—	—
Troms	2,220	1,569	—	509	70	—	21	—	51
Finnmark	461	—	52	370	39	—	—	—	—
TOTAL	72,052	40,643	4,597	12,734	6,261	1,024	335	605	5,853

Source : NOS Educational Statistics. Universities and Colleges

¹ The term is used to include universities and specialised colleges of higher education of university level.

The universities and the specialised colleges of higher education of university level receive a good 56% of all students in higher education, and these institutions are located in four different regions, each of which again forms a center of education in its own province.

HISTORICAL SURVEY AND PRESENT STRUCTURE

The Colleges of Education and Engineering had, respectively, approximately 18% and 9% of the student body in 1979. Here it is a question of there being many institutions, some of which are very highly specialised and offer only one or perhaps very few courses of study, where in some cases, very few students attend.

It is not an easy matter to give a satisfactory statistical survey of the expansion in higher education which has taken place during the last few decades. The fact that a considerable number of institutions have been reclassified in level greatly complicates things here.

In the table below, the survey has, therefore, been limited to the universities, the regional colleges and the colleges of education. Table 4 shows the increase in student numbers in these types of institution for the years 1938—1979.

Table I. 4.

Numbers of students at the universities, regional colleges and colleges of education in the years 1938—1979

	1938	1955	1960	1970	1977	1979
Universities ¹	5,855	5,630	9,609	30,105	39,306	40,043
Regional Colleges	—	—	—	477	3,793	4,597
Colleges of Education	771	3,305	5,034	7,465	11,158	12,734
TOTAL	6,626	9,024	14,643	38,107	54,257	57,974

¹ The term is used to include specialised colleges of higher education of the same level.

As the table shows there was a virtually explosive increase in the number of students in higher education during the 1960s. Up to the beginning of the 1970's, developments were marked by very rapid growth in the numbers of students wishing to take longer courses of study and by heavy concentration of student places in Oslo, Bergen (Hordaland) and Trondheim (South Trøndelag). This trend was less a result of conscious political decisions than a consequence of the fact that certain avenues of study at the universities had unrestricted admission; whereas, in the colleges of education, for instance, admission was restricted. As the regional colleges come into operation, care is being taken to ensure a better balance between short courses of study and those requiring a longer period of time. Over the next few years, the aim is to increase capacity to make admission to higher education easier, but it is not realistic to reckon that the number of places available will fully satisfy the demand. However, it is hoped that this regional development of educational provision will help to level out geographical and

HIGHER EDUCATION IN NORWAY

social differences in educational opportunity. In Table 5 we present a survey of the geographical variation in the tendency to enter higher education among young people between the ages of 20 and 24, and we show the changes that have taken place in the course of the last few years.

Table 1. 5.

Total number of students with 19-24-year-old students shown as a percentage of the total number of registered births for the year by county of residence on 1 October 1974-1978

County of Residence	TOTAL					19-24-year-old students as a percentage of the total number of births registered in their own year of birth				
	1974	1975	1976	1977	1978	1974	1975	1976	1977	1978
Men & women	84,582	86,816	87,508	86,710	88,615	10.9	11.0	12.8	10.5	10.6
Østfold	2,455	2,523	2,745	2,637	2,748	8.7	8.8	9.2	8.8	10.9
Akershus	7,066	7,471	7,944	7,932	8,256	13.6	13.8	13.9	13.9	14.1
Oslo	13,146	13,110	13,344	13,829	12,929	14.8	14.6	14.2	13.8	13.6
Hedmark	2,004	2,136	2,027	2,004	2,098	11.0	9.9	9.1	8.7	8.9
Oppland	2,142	2,214	2,223	2,033	2,070	9.4	10.0	9.5	9.0	9.0
Buskerud	2,397	2,529	2,895	2,662	2,817	9.1	9.4	9.3	9.4	9.6
Vestfold	2,179	2,489	2,530	2,560	2,591	9.9	10.6	10.6	10.1	9.9
Telemark	2,103	2,121	2,125	2,330	2,250	11.5	11.4	10.6	10.7	10.0
East Agder	883	919	913	974	931	8.6	8.3	8.3	8.5	8.3
West Agder	1,746	1,757	1,813	1,900	2,095	10.8	10.5	10.5	10.5	11.5
Rogaland	3,721	3,962	4,089	4,070	4,149	9.9	9.9	10.1	9.6	9.6
Hordaland	7,688	7,583	7,595	7,489	7,603	12.4	12.6	12.0	13.1	12.0
Sogn & Fjord.	1,440	1,503	1,497	1,441	1,497	11.9	11.8	10.8	10.5	10.4
Møre & Romsd.	3,089	3,204	3,334	3,394	3,432	9.9	10.0	10.0	10.0	9.9
S Trøndelag	4,656	4,696	4,812	4,437	4,674	12.4	11.9	11.4	10.9	10.9
N Trøndelag	1,505	1,511	1,533	1,467	1,582	8.5	9.5	9.2	8.8	8.5
Nordland	2,912	2,939	3,019	2,917	3,036	8.4	8.3	8.1	7.7	7.8
Troms	1,792	1,934	1,898	1,832	2,011	7.6	7.7	7.1	6.4	6.8
Finnmark	772	820	807	786	897	5.5	5.4	5.4	4.8	5.5
Abroad	842	931	928	1,009	1,140	—	—	—	—	—
Unspecified	3	15	27	17	8	—	—	—	—	—

A certain degree of measurement of the process of social leveling can be obtained by looking at the percentage of school-leavers taking the Examen Artium (roughly equivalent to the English GCE at Advanced Level) within different groups of the population. The next table covers the period 1951-1976:

HISTORICAL SURVEY AND PRESENT STRUCTURE

Table I. 6

Percentage of males and females taking Examen Artium in 1951, 1958, 1963 and 1976 grouped according to father's occupation

Father's Occupation	Percentage taking Artium ¹						Provisional percentage	
	1951		1958		1963		1976	
	Male	Female	M	F	M	F	M	F
All groups	16.3	7.2	12.6	9.7	17.2	13.9	32.8	34.2
Senior administrators, Academics, Professionals, Teachers	23.5	12.1	19.2	16.2	62.3	37.8	61.7	62.5
Self-employed in industry, commerce, shipping, finance, etc.	19.7	16.6	30.9	27.1	39.6	35.2	52.2	55.2
Junior executives	22.6	21.4	23.6	18.5	37.1	22.6	45.6	41.7
Craftsmen	6.7	3.5	14.1	11.5	22.3	21.0	34.2	29.7
Self-employed in agriculture & forestry	6.3	3.5	7.5	4.7	9.3	9.8	25.0	32.0
Foremen & Workers	4.5	2.5	6.0	3.1	9.1	4.3	20.3	21.4
Fishermen	2.3	0.8	3.3	1.4	4.3	1.6	15.5	16.5

¹ Source: Vangness: Candidates for Examen Artium and their marks. An investigation of first year's candidates. RAV's Reports Division, 1967.

In the course of the last 20 years, there has been a sharp increase in the number of pupils and students in upper secondary and higher education. This may also have affected the pattern of recruitment. The table above gives the percentage of school-leavers taking the Examen Artium (roughly equivalent to English 'A' levels) for males and females grouped according to father's occupation in 1951, 1958, 1963 and 1976. The figures show that there are still great differences in Artium frequency based on the occupation of the father, but also that a great deal of levelling occurred between 1963 and 1976. In the category "senior administrators, academics, professionals, teachers" the Artium frequency remained constant, whereas in categories like "fishermen" and "foremen and workers" there was a considerable increase.

II

ADMINISTRATIVE STRUCTURE

The highest administrative body for the higher-education institutions is a ministry, normally the Ministry of Church and Education, but specialised training in agriculture comes under the Ministry of Agriculture. In recent years there have been moves to bring all education under the Ministry of Church and Education, but so far this process has not been completed. Colleges within the health sector were transferred from the Ministry of Health and Social Affairs to the Ministry of Church and Education on 1 January 1981.

This on the other hand had the result that the Ministry of Church and Education became a rather large administrative unit, with responsibilities for a wide and varied field, difficult to overlook for a single minister. It was therefore decided to split it up into two ministries as of 1 January 1982: One for the school system, adult education and the State Church, retaining the old name of *Ministry of Church and Education* and one for culture, higher education and research, called the *Ministry for Culture and Scientific Affairs*. It is this last ministry which today is the highest administrative authority for all institutions of higher education.

The significant increase in the number of institutions offering higher education is due partly to the establishment of new colleges, as mentioned in the preceding chapter, and partly to the reorganisation of schools which were previously classified as upper secondary and have today been given the status of higher-education institutions. In a transitional period this has meant a less uniform administrative structure than was previously the case within the field of higher education. Traditionally the universities and other educational institutions of equivalent level have always been run and financed by the state. Formerly there was only one exception to this rule; namely, the Free Faculty of Theology, which is an independent private institution

ADMINISTRATIVE STRUCTURE

but receives state support for its running expenses. With the restructuring and expansion of the areas of study within the scope of higher education, this country now has more private educational institutions of this level as well as a number of colleges which come under County administration. The reason for the latter is that all upper secondary education is the responsibility of the County, and the reclassification of some schools of upper secondary level as higher-education institutions has not in all cases been accompanied by a corresponding transfer to state administration. However colleges of maritime studies and institutions training nurses and offering other courses within the field of health education at the level of higher education are in the process of being transferred to state administration.

As of 1 October 1979 the distribution of higher-education institutions between state, county and private administration was as follows :

Table II. 1

Higher-education institutions according to ownership

Type of Institution	Total	State Colleges	County Colls	Private Colleges
Universities ¹	13	12	—	1
Regional Colleges	11	11	—	—
Colleges of Education	34	32	—	2
Colleges of Engineering ²	15	14	—	1
Colleges of Social Studies	5	4	—	1
Colleges of Advanced Nursing	8	6	1	1
Military Colleges	9	9	—	—
Other colleges	48	17	7	24
TOTAL	143	105	8	30

Source : NOS Educational Statistics. Universities and Colleges.

¹ Also includes specialised colleges of university level.

² The state took over the running of all colleges of engineering from 1 January 1977, but the state has not yet taken over the buildings and equipment.

The framework for the activities for the state educational institutions is laid down by the central authorities, the Storting (Norwegian Parliament), the Government and the specialist ministry, through the annual budget, Acts of Parliament and general guidelines. In the Ministry of Church and Education administrative responsibility for higher education comes under a special department.

The universities enjoy a high degree of autonomy within the limits mentioned. Each institution works out its own budget proposal for the Ministry, allocates the annual grant for the running of the individual

departments and for other purposes, approves courses of study, appoints staff and lays down their duties. However, the appointment of teaching staff at the level of reader and professor is the responsibility of the Ministry, which in such cases bases its judgment on recommendations from the universities.

The administrative structure may vary somewhat from one university to another. We shall not here launch into a detailed description of each institution; but, as an example, we shall briefly sketch the administrative pattern at the University of Oslo and otherwise mention certain distinctive features of other institutions.

The Rector and the Senate represent the supreme authority for the activities of the university. The Senate consists of the Rector as chairman, the Prorector, the Deans of the various faculties, and representatives of the academic staff, the other employees and students. The Senate has its own Working Committee with representatives of the various groups, and the Senate delegates some of its power of decision and some of its tasks to this committee. The Senate itself deals with matters which, by virtue of their extent and importance, have great significance for university policy. Such matters may be long-term planning of the university's activities, guidelines and principles for the use of the university's resources, guidelines and principles for the co-ordination of the university's courses of study, and statements by the university about important questions of educational and research policy. The Working Committee deals with current routine matters and also prepares the agenda for the Senate.

The university is divided into faculties under the direction of a Dean and a Faculty Council consisting of elected representatives of the permanent academic staff, the temporary academic staff, the non-teaching staff and the students. The Faculty Council elects its chairman (the Dean) and vice-chairman (the Sub-Dean) from the permanent academic staff on the Council.

The major academic disciplines within the faculty have their own departments which function as research centres for the individual subjects. The Departmental Council is the highest authority within the department and consists of representatives of the same groups as have been mentioned for the Faculty Council. The Departmental Council elects a Director from among the permanent academic staff. The Director is also chairman of the Council.

General administrative matters are the responsibility of the University Secretariat which is headed by the University Director. The Administration sees to it that resolutions passed by the elected bodies are put into effect, and it takes care of the daily management of the university within the guidelines that have been drawn up. In addition, the Administration has the function of supporting the elected bodies at all levels by preparing reports and other matters to be placed on the various agenda.

ADMINISTRATIVE STRUCTURE

In the case of the University of Bergen, the administrative structure is, in the main, the same as for the University of Oslo. The University of Trondheim has hitherto had separate administrations for each of the units incorporated into the university¹. The four institutions still exist as autonomous units, but a provisional Steering Committee is responsible for coordinating their activities with a view to achieving the best possible united efforts in teaching and research. Work is in progress on a new organisational structure for the University of Trondheim, but no final proposal for reorganisation has yet been put forward. It is probable that a proposal for reorganising the structure of the University of Trondheim will be put to the Storting in the course of 1981. When the University of Tromsø was established, it was decided to try new ways of structuring the administration. For example, the idea of dividing the university up into faculties in the traditional way, each with its own governing body, was dropped. The different courses of study are divided into subject groups, which are all represented in the supreme governing body of the university, the University Assembly. There are also a certain number of representatives from the world outside the university.

In a more informal way, the universities had for many years ensured regular contact through the "rector meetings", as they were called. At these meetings the initiative was taken to establish National Associations for the various subjects, and matters of common interest to the different institutions were discussed. These "rector meetings" have now been superseded by a more formalised coordinating body, the Council for Norwegian Universities and Colleges. This Council acts in an advisory capacity to the Ministry.

Central advisory bodies directly under the Ministry have been established for a number of higher-education institutions outside the universities. Thus, there is today a specialised council for teacher training, another for the training of engineers, and another for the education of social workers. However, it is felt that it would be more convenient to create a coordinating body to include all higher education, including the traditional university courses. The Ministry is working on the problem and plans to produce a report to the Storting on a council for higher education in the course of 1981. This will provide a comprehensive evaluation of all courses offered, both in the universities and in the regional college system which provides education within the same fields. It is intended that the existing councils shall continue their work in their respective fields.

Formerly, in the case of higher-education institutions outside the universities, one could find different types of management structure, but the administrative structure has now assumed a more firmly organised and uniform pattern; although, in the case of some of these institutions, this process has not yet been completed.

¹ The library and museum of the Royal Society of Science, the Norwegian College of Advanced Technology and the Norwegian College of Education.

HIGHER EDUCATION IN NORWAY

Through the Regional College Steering Committees, a joint management body has now been established for the state colleges in the regional system. This applies to the Regional Colleges, the Colleges of Engineering, the Colleges of Education, the Colleges of Social Studies and also individual institutions such as the Northern Norwegian Conservatory of Music, the Norwegian College of Journalism, the State College of Librarianship and the State College of Dispensers. Since 1980, the Bergen Conservatory of Music, which has changed from a municipal to a state college, has also been included in the system. From 1981, colleges providing higher education for staff in the health sector will also come in under the respective Regional College Steering Committees. However, in the transitional period a considerable number of these colleges are still being run by Counties or private interests. Furthermore, new vocational courses are being developed in higher education, and the Regional Steering Committees are engaged in this work.

Higher maritime education, which is now run by the Counties, is also being reorganised and will come under the regional college system.

Today Regional College Steering Committees have been established in every region. Sixteen of these Steering Committees have been functioning since 1976; and the last, for Oslo/Akershus, began its activities in the autumn of 1979. The Steering Committees, which are appointed by the Ministry of Church and Education, are comprised of representatives of the staff and students at the institutions under the ministry's jurisdiction and of representatives proposed by the County Councils. The popularly elected representatives are in the majority, and this is done to ensure close contact with that particular part of the country. The period of office for these Steering Committees follows the term of office for municipal and county councillors. From 1981, all the Regional College Steering Committees will have secretariats with permanent staff.

The Ministry has delegated many practical/administrative matters partly to the Regional Steering Committees and partly to the colleges themselves. The most important responsibilities of the Steering Committees are the running, planning, and reporting on higher education in the region. They also have a duty to state their views on capacity and location when it comes to private institutions on the same level as colleges of higher education, since the Steering Committees have general responsibility for planning and coordinating all higher education in their region with the exception of the universities.

The purely academic control is left to the governing bodies of each individual college, composed of staff and students. The appointment of staff is delegated to the institutions and the Steering Committees. New regulations for the appointment of staff within the regional college system in general were laid down in a Royal Decree on 6 April 1979.

III

STAFF

The expansion of the educational system has led to an ever increasing number of staff in the teaching world in recent decades. The table below shows in rough outline the trend for the years 1952-79. The figures include teaching staff in full and part-time posts as well as administrative, technical and other ancillary staff.

Table III. 1

Number of employees in education sector 1952-79

1952	1961	1970	1979
29,900 ¹	45,200 ¹	73,100 ¹	85,300 ²

¹ Source : Historical Statistics 1978, table 43.

² Source : Central register of public employees, and the draft budgets for 1980 of the Ministries of Church and Education, Agriculture, and Health and Social Affairs. The number of teachers in private education has been estimated.

From 1952 to 1961, there was an increase in the number of employees of roughly 15,300 ; and in the next nine years up to 1970, there was a further increase of 27,900. The particularly sharp increase in the 1960s was not the least due to the extension of compulsory education from seven to nine years' duration. From 1970 to 1979, the number of people employed in education again increased by about 12,200. In this period there was considerable expansion in both upper secondary and higher education.

We shall look a little more closely at staffing trends in higher education in particular. Here, statistics unfortunately do not go back any further than 1961, but we can at least see the pattern of development over the last 18 years :

Table III.2

Staff at Universities and Colleges 1961, 1970 and 1979

	1961 ¹	1970 ²	1979 ⁴
Research and teaching staff	2,108	3,262	7,019
Other staff	(1,900) ³	3,853	4,650
TOTAL	4,008	6,915	11,669

¹ Source: "A Survey of Norwegian Research Administration and Policy".² Estimated figure.³ National Census 1976, booklet II.⁴ NOS: Universities and Colleges 1 October 1979, and draft budgets for the Ministries of Church and Education, Health and Social Affairs, and Agriculture.

As the table shows, in the course of the two recorded 9-year periods there was a considerable increase in staff in higher education. From 1961 to 1970 the number of staff increased by approximately 73% with a somewhat higher increase for the "other staff" group than for those engaged in teaching. Up to 1979 there was a further increase of almost 69%, but this time with a considerable preponderance of the "research and teaching staff" group, which alone increased by more than 115%. The reason for this is that in the 1970's there was a restructuring of the educational system which meant that many upper secondary institutions were transferred to higher education. These educational institutions are usually small, academically homogeneous units with a relatively low number of staff in administrative posts or technical ancillary positions.

Expansion in higher education has been considerable both in absolute and relative terms. A measure of this may be obtained by comparing the numbers employed in higher education with the numbers employed in the education sector in general:

Table III. 3

Staff in Higher Education as a percentage of all employees in the education sector in 1961, 1970 and 1979

1961	1970	1979
7.9	9.5	13.2

The table shows a steady increase in the proportion of staff in higher education in the course of the period of time recorded. One, therefore, notices a particularly strong investment in higher education in a period marked by considerable expansion in the education sector in general. It is, however, important to stress the fact that a not insignificant share of the growth in higher education is connected with

STAFF

the process of restructuring which has taken place and is, to some extent, still in progress.

Qualified research and teaching staff in higher-education institutions may be divided into the following professional categories :

- Professors.
- Readers.
- Senior Lecturers.
- Lecturers.
- Research Scholars.
- Research Assistants.

The number of teaching hours varies for the different categories.

For professors and readers it is five hours per week. In addition, there are such tasks as the preparation of lectures, research work and administrative duties. Special obligations such as being Chairman of a Department will mean a reduction in teaching hours. Professors and readers do work requiring the same level of academic qualification, but a professor is supposed to have published more widely in the field. Particularly in medical faculties, use is often made of professors or readers in part-time positions. Beside their lecturing, they will have their main appointment in a university clinic or other hospital.

Senior lecturers and lecturers form the middle category and are also highly-qualified staff. Lecturers have teaching as their main activity, and the number of hours they teach may vary according to their field of study.

Research scholars and assistants occupy temporary posts for the training and recruiting of research workers. The number of teaching hours for research scholars is not supposed to exceed two per week. For research assistants, the stipulated working week is 20 hours, whilst the rest of their time is at their disposal for their own research. In the universities and colleges today, about 29% of the academic staff occupy recruiting posts.

An important principle in the development of the Regional Colleges has always been that the teaching staff there should be required to have the same qualifications as teachers of equivalent level in the universities. Lecturers form the largest category. In addition, there are directors of studies and readers — categories created in 1979.

The Regional Colleges also have posts for research scholars, which have been created with a view to securing teaching staff in areas of study in which it has been particularly difficult to recruit teachers with completely satisfactory qualifications. This applies in particular to fields in which there was previously no teaching at the level of higher education. On the whole, the Regional Colleges have been successful in recruiting well-qualified teaching staff even though a high standard of competence has been strictly demanded.

The following table provides a survey of the number of teachers in the different types of higher-education institutions in the years 1974—78 :

HIGHER EDUCATION IN NORWAY

Table III. 4

Teachers in full-time and part-time¹ posts according to type of HE institution and occupation 1974-78

Type of Institution and Occupation	1974		1976		1978	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
TOTAL	5,271	931	5,475	1,223	5,742	1,277
Universities	3,263	129	3,579	248	3,611	163
Professors	549	—	619	2	639	3
Readers	280	4	308	—	334	—
Lecturers	1,210	20	1,666	58	1,725	52
Research scholars	204	—	267	3	231	—
Research assistants	654	97	656	96	609	93
Other academic posts	366 ²	8	81	89	73	15
Regional Colleges	175	2	239	10	297	19
Lecturers	161	2	205	6	257	18
Directors of Studies	—	—	21	—	23	—
Research scholars	9	—	8	1	6	—
Other teaching staff	5	—	5	3	11	1
Colleges of Education	682	170	1,005	222	1,079	206
Principals	32	1	36	1	29	—
Lecturers	418	35	589	68	668	73
Directors of Studies	—	—	45	12	45	1
Pedagogical Supervisors	—	—	296	139	323	125
Other teaching staff	432 ²	134 ²	36	2	14	7
Colleges of Engineering	630	335	404	410	395	367
Principals	11	—	12	5	10	5
Lecturers	411	48	343	278	350	284
Assistant Lecturers	66	12	19	73	—	62
Practical Supervisors	89	—	17	32	22	36
Other teaching staff	54	275	13	22	13	—
Colleges of Social Studies	58	—	77	8	94	8
Principals	4	—	4	—	4	—
Lecturers	54	—	61	6	72	4
Other teaching staff	—	—	12	2	8	2
Colleges of Advanced Nursing	29	49	40	53	34	18
Principals	10	—	24	1	7	—
Lecturers	—	—	4	2	10	—
Instructors	19	—	9	3	17	1
Other teaching staff	—	49	3	47	—	17
Other colleges of higher education	234	246	113	272	242	498
Principals	16	—	12	—	20	—
Lecturers	93	22	36	—	73	22
Instructors	30	3	36	23	69	74
Other teaching staff	95	221	29	249	80	402

¹ The figures for part-time teachers are partly estimates.² Owing to changes in the classification of posts in 1976 and later, it has been necessary in the case of 1974 to group several occupational categories under the headings "other academic posts"/"other teaching staff".

IV

COSTS

In a period marked by steadily increasing economic growth in society as a whole, the education sector has also been considerably strengthened. The resources available in the post-war years made possible both an organisational and a pedagogical reform of great extent, accompanied, and partly determined by, massive quantitative expansion.

In Norway, education is, in general, the responsibility of public authorities. It is true that there are private institutions at all levels in the educational system, but they represent a very small proportion measured in terms of educational units or number of pupils/students. When we take account of the fact that public financial support is also granted for the running of private institutions, we can more or less regard the whole education sector as part of the public services from a national economic point of view.

In accordance with the administrative distribution of authority in the educational system, there is also a distribution of economic authority between different levels of public administration. Primary and lower secondary schools are financed by municipal councils, and upper secondary schools by county authorities, although they receive considerable sums in grant from the state according to the economic needs of the respective municipal/county authorities. Higher-education institutions are financed by the state. The table overleaf gives a survey of net public expenditure for educational purposes in the years 1956/57—1978 with the share of costs falling on state and municipal/county authority. Finally, public expenditure on education is given as a percentage of the Gross National Product.

HIGHER EDUCATION IN NORWAY

Table IV. 1.

Public expenditure on education in millions of NOK

	1956/57	1966	1976	1978
Net public expenditure on education	936.0	2,964.0	11,750.4	15,508.2
State share	419.5	1,505.0	6,618.3	8,295.3
Municipal/county share	516.5	1,459.0	5,132.1	7,212.9
Net public expenditure on education as a percentage of GNP	3.1	4.9	6.9	7.5

The increase in public expenditure on education has been very high in the years since the Second World War. In the years shown in the table above, there was an increase of over 200% in the first decade, 1956/57—1966; and in the following decade, a further increase of almost 300%. For the last two years, 1976—78, the rise in expenditures was somewhat less, altogether 32% or an average of 16% per year. For the first two decades the state bore a relatively higher share of the rise in expenditures than the municipal/county authorities, not the least because of the massive investment in higher education. Owing to rises in prices, the true value of the resources invested in education is, of course, lower than the nominal rise in expenditures might indicate; but it has nevertheless been considerable. The share of GNP spent on education has also steadily risen, the increase being on the average 0.2—0.3% per year.

A more detailed specification of state expenditures on higher education is given in the table IV.2:

Table IV. 2

Net state expenditure on higher education¹ in millions of NOK

	1946/47	1956/57	1966	1976	1978	1980 ²
Net state expenditures on higher education	19.5	64.5	348.5	1,740.2	2,226.5	2,400.3
Share of expenditures going to investment	2.5	7.6	118.1	203.8	333.4	289.8
Investment outlay as a percentage of total expenditures	12.9	11.8	33.9	11.7	15.0	11.6
Net state expenditures on higher education as a percentage of GNP	0.2	0.2	0.6	1.0	1.1	

¹ Military colleges not included.² Budget proposal.

COSTS

For higher education alone, the increase in expenditures since the war has been relatively higher than for the education sector in general. Statistics here also go somewhat further back and show a rise in expenditures of more than 230% in the course of the first decade after the war. In the next decade, up to 1966, there was a further rise in costs of up to 440% in relation to 1956/57. In this period there was a great deal of new building and investment in equipment. In 1966, investment expenditures amounted to almost 34% of the total costs of higher education. Both the 1960s and 1970s were marked by great expansion of higher-education institutions. In this period a new university was established in Tromsø, and the Universities of Oslo, Bergen and Trondheim were further expanded. Furthermore, in the course of the last few years, Regional Colleges have sprung up in ten regions. On the threshold of the 1980s, we can look back upon a considerable amount of building; and from 1978 to 1980 we can see for the first time a drop in investment expenditures, even though there is still a lot of building to be done, especially in the regional college system. For higher education in general, there was still a certain increase in costs up to 1980, but a lower rate of growth in public expenditures in recent years has also had consequences for the higher-education institutions.

V

LIBRARY SERVICE

In Norway there are more than 300 libraries for specialised fields and research including collections of documentation. Many of these have been built up in association with the individual higher-education institutions and are an integral part of institutional activity. This applies to individual colleges within the regional system as well as to several institutions in the university sector. The extent and academic breadth of these libraries will vary with the different fields of study at the various institutions. The total stock of books at our higher-education institutions amounted to roughly 8.7 million volumes in 1979. Three of our universities, however, have old academic libraries with their own traditions and history in our educational system.

The largest of these, and at the same time Norway's main academic library, is the University of Oslo Library, which was established in 1811, the same year as the university. The core stock was, in the main, a duplicate collection of approximately 30,000 volumes from the Royal Library in Copenhagen, and a collection of older Danish literature amounting to roughly 15,000 volumes. In 1979 the University of Oslo Library had a stock of approximately 2.5 million volumes plus manuscripts, maps and sheet music. Through the Faculty Service, however, a decentralised form of organisation has been created and the University of Oslo Library administers in addition about 1.7 million volumes spread throughout the university's 113 departments and museums. The library had 16,031 current periodicals.

The Norwegian Department of the University of Oslo Library was established in 1882 and functions as a national library. This means that it catalogues and preserves one copy of works by Norwegian authors and all foreign literature about Norway, Norwegians and Norwegian conditions. The Norwegian Department prepares the national

bibliography "Norwegian Inventory of Books", and cooperates with the Library of Congress in Washington in the international central registration programme, Shared Cataloging.

When the University of Bergen was established, it was a direct continuation of Bergen Museum; and when the University of Bergen Library was created in 1948, the library of Bergen Museum became part of the foundation stock of the new university library. In a sense its history goes back to 1825 when the museum was founded. In 1979 the University of Bergen Library had 1.2 million books and periodicals as well as maps, newspapers, manuscripts and diplomas. The number of current periodicals was 10,254. The library has the right to claim one copy of all writings printed or published in Norway.

At the University of Trondheim the library of the Royal Society and the library of the Norwegian College of Education are organised on a joint basis, whereas the library of the Norwegian College of Advanced Technology still forms an independent unit. In addition, for the Faculty of Medicine, a separate library service has been established together with the Regional Hospital in Trondheim. The idea is that all library services are to be coordinated to form a joint university library in Trondheim, but this has not yet happened because the organisational structure of the university as a whole remains to be clarified.

The library of the Royal Norwegian Society of Science is as old as the Society itself, that is to say, over 200 years old, and it has the largest collection of literature in Norway north of the Eastern province. The library includes books on all subjects, including literature, but the main emphasis is on natural history, archaeology and history. The percentage of older works is higher in this library than is the case with equivalent libraries elsewhere in this country. The library has the right to claim copies of all books published in Norway.

In 1979 the collections at the Royal Society and the Norwegian College of Education included a total of 673,000 books plus special collections of sheet music, maps, newspapers, pictures and manuscripts. The number of current periodicals was 9,518.

The library at NTH (The Norwegian College of Advanced Technology), founded in 1910, consists of a main library and several divisional and departmental libraries which are directly under the main library. In 1979 the library had 717,613 books and 9,376 current periodicals. In addition to this, the library had certain special collections. The works represent the subject areas taught at NTH, that is to say, technical subjects and the exact sciences which form their basis. A typical feature of this library is the marked preponderance of recent works.

Most Norwegian research libraries have traditionally been situated in the Oslo area, but the development of new research and teaching institutions since the Second World War has brought about a change in the picture. Active library centres have developed in Bergen, Trondheim

HIGHER EDUCATION IN NORWAY

and Tromsø, and new specialised libraries have been set up in various places in this country. Gradually, an increasingly greater need was felt for a central body for this activity, and in 1969 the National Library Service was established to provide a more efficient specialised library and documentation service. The National Library Service is responsible for planning, coordination and cooperation, as far as academic and specialised libraries are concerned; and it is also responsible for such matters as the coordination of Nordic and international cooperation. The National Library Service is considered to be a part of the joint administration for universities and colleges, but it also has a duty to supervise other specialised libraries. It is headed by the State Librarian who is the state's highest professional authority in this field. As an advisory body to the State Librarian and the ministry, the Ministry of Church and Education has appointed a special National Library Council.

VI

CONTENT AND ORGANISATION OF COURSES

In recent years the tendency has been towards varied and heterogeneous provision at the level of higher education. Historically, and in terms of organisation, there is a difference between the universities¹ on the one hand and other post-secondary educational institutions on the other. However, as far as teaching is concerned, there has not been any desire to create a sharp distinction. On the contrary, great emphasis has been placed on integrating all higher education in an overall academic system, whether or not the teaching is provided in one of the academic institutions. The main difference is that university studies are usually of longer duration and have a greater degree of research activity built into them than the courses in the other educational institutions.

Degrees

At the universities, one finds both continuous, vocational courses of study such as those for doctors, dentists, civil engineers, economists, agronomists and so forth, alongside more freely organised courses in such fields as natural science, arts and social science. For these freer courses of study there will usually be two degrees open to students. The basic course of study leading to the *Cand. Mag. Degree* is planned to take 4—4.5 years; after further study, which according to the relevant plans should take about two years and which also contains a requirement that students shall write a thesis, students can obtain one of the following higher degrees, *Cand. Real.*, *Cand. Scient.*, *Cand. Philol.*, *Cand. Polit.* or *Cand. Jur.* Alternatively, in some areas of study, one can take a continuous course leading to a Master's degree. One's studies

¹ The term also includes those specialised colleges of higher education which provide courses of study of roughly the same length with about the same research content.

will be more centered around the main subject with no possibility of taking the final examination at an earlier time. For courses of study organised as continuous, vocational training, there are variations in duration, but many subjects take five years or more. In addition, advanced courses of study are offered leading to a doctorate or licentiate's degree.

Courses

The question of the duration of different courses of study at the universities has been a central issue in educational debate for a long time. Academic pressure in the direction of ever greater demands being made of the students must be met with re-thinking about course content so that the length of courses can be kept within reasonable limits. This is necessary both from the point of view of resources and also because it is doubtful whether constant extension of the duration of courses offers advantages outweighing the increasingly high age at which people enter the practical world outside the academic institutions. At the same time it is clear that long studies in certain areas do not necessarily mean a corresponding debit on teaching resources. In many cases the length of time spent studying increases because students take employment while they are studying, and sometimes they may interrupt their studies to work full-time. This kind of experience of work in the world outside may often be of value in their studies and to society in general. In the case of certain subjects, there are arrangements for practical experience outside the particular educational institution, which means that resources are released in such periods.

The universities are looking into the possibility of reducing the length of courses with a view to achieving an academically acceptable level within a limit of roughly four years' full-time study, by among other things, placing less stress on the preparatory courses which have hitherto been compulsory for most courses of study.

The teaching duties which are placed upon the universities may be briefly summarised as follows:

- a) Fundamental education of 4—5 years' duration.
- b) Specialisation at post-graduate level, 1—2 years' duration
- c) Training of research workers at postgraduate level, 2—4 years' duration.
- d) In-service training and refresher courses.

Gradually various forms of in-service training and refresher courses are expected to be given increasing priority. Probably it will not be useful to operate with such clear-cut distinctions between different teaching duties as we have done above, since specialisation and advanced

study at postgraduate level will probably, to an increasing extent, take place after graduates have been out to work for a certain number of years. In this way such studies will gradually be more in the nature of in-service training or refresher study. At the fundamental level, too, the need for keeping up to date with new knowledge has increasingly actualised the demand for in-service training and refresher study. Today an attempt is being made to cover this need through courses organised partly by the professional associations, partly by public and private employers, and partly by the universities themselves within the constraints of very tight budgets. When it comes to the spreading of new knowledge and the results of the most recent research, limited resources mean that efforts must be directed at promoting private study through efficient dissemination of specialised literature.

Studies and introduction into research

Resource-intensive research activity and, thus, the training of research workers, too, are mainly concentrated in the universities, the colleges of higher education with an equivalent research commitment, and the research councils¹. In the main, the training of research workers is done through educational posts linked to these institutions, but in recent years the possibility of organised supervision of research students has been opened up, for example, through the introduction of the new degrees, *Dr. Ing.* and *Dr. Scient.* In areas in which research is included as one of several relevant tasks, for example, clinical medicine or technology, the introduction to research work usually takes place in close contact with the practical work of the institution. This particularly applies to research recruits working in research units outside the universities. Especially in technological subjects, it is normal to have this kind of practical introduction to research through work in research institutes or industrial laboratories.

Research assistants

The present training of research workers at universities and colleges takes place in a number of different types of post, with varying working conditions, rights and duties. Research assistantships are normally tenable for six years with 50% of the time for research and training. A good deal of the work done by research assistants has been routine help in teaching and research. The Ministry of Church and Education believes that appointments to recruiting posts should gradually be adapted to the new possibilities for training research workers. In

¹ The Norwegian Research Council for Technology and Natural Science, the Norwegian Research Council for Science and the Humanities, the Norwegian Research Council for Agriculture, and the Norwegian Research Council for Industrial Fishing.

agreement with the Ministry, the Norwegian Universities Council appointed a national committee which reported in detail on the conditions obtained in recruiting posts. With the committee's report as a basis, the Universities Council made a statement to the Ministry in December 1980 and said, among other things: "The present recruiting posts are to some extent adapted to the doctoral degree arrangements which have applied until now. But a *Dr. Ing.* degree and a *Dr. Scient.* degree have now been introduced, and certain institutions have put forward proposals for other equivalent subject-specific doctoral degree arrangements with the inclusion of organised training in research. As the new arrangements come into effect, it is important that these institutions should be able to use the group of recruiting posts in a flexible way as a basis for carrying out organised training in research". The Universities Council recommends that the period of appointment to research assistantships should be limited to four years in those cases in which time for research and education can be increased to around 75% of the total working hours. The individual research assistant will thus still have the equivalent of three years' working time at his disposal for research purposes.

In the main, the Ministry of Church and Education agrees with the views expressed by the Universities Council. However, the Ministry assumes that more detailed specification of conditions of appointment, etc. will have to be discussed with the professional associations.

Regional Colleges

Higher education outside the universities has mainly been developed according to professional sectors and specialised disciplines. Among these is the training of teachers, technicians, engineers, journalists and librarians. Education for these specific areas has now become part of the regional system of colleges; and, in addition, the newly established Regional Colleges offer courses which are a combination of new vocational training and subjects or parts of subjects corresponding to those offered by the universities at foundation level. The university subjects are often termed *one-year courses* or *groups of subjects-areas*. Sometimes courses are arranged in the same way as at the universities, but in other cases they are different from the type of course provided by the universities so that they represent an alternative possibility. Here, the curriculum of the Regional Colleges may be based on differing academic views of what course-content ought to be, or an attempt may have been made to meet particular needs in the region. Normally there is a possibility of transfer between the higher-education institutions so that an examination passed at a Regional College is recognised as part of a university degree. The development of the regional system of colleges is also felt to have influenced the kind of teaching offered by the universities in the direction of greater flexibility when it comes to

combining arts and social science subjects. Recently, regulations were made for a *Cand. Mag.* degree at the Regional Colleges on the basis of at least two subjects or studies totalling four years' duration.

The most important aim of the activities carried out by the Regional Colleges has otherwise been to develop alternative forms of higher education in new subject areas where the need for highly qualified manpower has made itself felt, often at local level. Here it is a question of independent courses of study of from one to three years' duration. Usually, courses are offered in different areas extending over two years. Common to most fields of study is the fact that students may choose an area of study in depth or specialise in a certain direction within part of the syllabus. For example, at one of the colleges, students taking the two-year social science course may choose between public administration, the administration of leisure pursuits, the cultural sector, and personnel administration. A two-year course in transport studies has optional components within social planning in general and bus transport, urban traffic or coastal traffic in particular. Social studies have been accorded a central place, and they deal with concrete social problems such as environmental conservation, trade unions, the economic and political power structure in society, and so forth. To a great extent courses have been designed on an inter-disciplinary basis, so that within the technologically-oriented areas of study, material has been included to throw light on the human, social and general sociological aspects of technological development.

In order to prevent the individual subject environments from being too small and weak, an attempt has been made to bring about a certain distribution of work between the Regional Colleges. The education provided by the different colleges must not be seen in isolation. The intention is that these colleges as a whole are to provide a wide and varied range of studies and admit students from the whole country. When it comes to the choice of the concrete programme of studies at the individual Regional Colleges, efforts have been made to stress the particular conditions and needs present in the region concerned.

The Regional Colleges have been given wide-ranging duties within the fields of in-service training and refresher courses, and adult education. It is precisely this decentralised regional system of colleges which affords the opportunity of reaching many people who have not previously had a chance of getting higher education and for whom the geographical distance to a university or college of higher education has been an economic and practical obstacle.

Right from the start the Regional Colleges have had authority to devote up to 25% of their resources to measures within adult education and refresher course provision. Even if this right has not been exercised to the full, adult education has nevertheless become a significant part of the daily activity and has helped to create a broad area of contact between college and society. It is the declared intention that adult

education shall be put on an equal footing with the other teaching duties of the college. Part of the provision in adult education is organised as full-time study aimed at certain occupational groups. In other cases, part-time studies have been developed, leading to an examination corresponding to a one-year course. Moreover, the ordinary teaching provided by the college also serves as adult education for part-time students taking one or more courses. In this way the possibility has been opened both for taking vocational courses directly within specialized fields or as a part-time student taking a full examination over several years.

The Regional College Steering Committees have an important function when it comes to coordinating high-level provision in the field of adult education. Today such provision is made by the Regional Colleges, the adult education organisations, and private institutions.

The teaching duties which are placed upon the Regional Colleges can thus be categorised as follows:

- a) Vocationally-oriented education, 1—3 years' duration.
- b) General higher education, 1—2 years' duration. Complete courses or parts of undergraduate university studies.
- c) In-service training and refresher education.

The bulk of research activity in the higher-education institutions takes place in the universities, as has been mentioned earlier. This particularly applies to the most resource-intensive research within the fields of technology and natural science. The Regional Colleges have teaching as their primary tasks, but research nevertheless does play a significant part. This activity has often had the form of local reports related to some aspect of the immediate surroundings of the particular college, both in commercial life and the public sector. Also at the undergraduate stages in higher education it is important for students to get some insight into the methods of research, and this is taken into account in the programmes of studies offered by the colleges.

VII

RESEARCH AS PART OF THE SYSTEM OF HIGHER EDUCATION

Right up to the end of the 1940s, research in this country was essentially connected with the universities and colleges of higher education; but after the war, a considerable amount of research activity also gradually developed outside the academic institutions. In this connection it is important to mention the establishment of the research councils whose task it is, within their different subject areas, to contribute to the development and application of research. Altogether four research councils have been set up: the *Norwegian Research Council for Technology and Natural Science* established in 1946, the *Norwegian Research Council for Science and the Humanities* and the *Norwegian Research Council for Agriculture* created in 1949, and, finally in 1972, the *Norwegian Research Council for Industrial Fishing*. The general purpose of these councils includes a number of tasks very different in character — distributive, initiating and advisory work as well as administrative functions. To a certain extent research institutes have also been established in direct association with the councils, but half the funds the councils control are distributed to research workers or research teams connected with other institutions, first and foremost among these being the universities. Among other types of research institutions are public and private institutes of research and commercial and industrial laboratories. Research activity has not only grown quantitatively (resources made available and work input) but it has also gained a far wider spectrum of variety both in terms of subjects and organisation. Here, however, we shall concentrate on the research work being done in the higher-education institutions, which still have a leading place in the picture when it comes to research and development activities in this country.

Research in our higher-education institutions is, in the main, concentrated in the universities and the specialised colleges of higher

education ; but to a certain extent there is a desire to build up research work and report writing on a smaller scale in the Regional Colleges out of consideration for the standard of teaching, the recruitment of qualified teaching staff, and the particular needs and interests of the region. With regard to other colleges which offer shorter vocationally-oriented training, research activity is relatively small. Here it is, on the whole, a question of contract research financed through sources other than the colleges' own funds.

A distinctive feature of university research activity is that it is virtually entirely initiated by the individual research worker. As a consequence of the high degree of autonomy enjoyed by these institutions, people engaged in research in this sector have great freedom of choice. Within given economic limits, it is the research workers themselves who decide how research resources shall be used. This does not mean that the individual researcher makes his decisions in a vacuum without any kind of external influence, but political authorities do not exert a particularly large share of this influence, nor do external consumer groups, since contract research accounts for only a small portion of university activity. First and foremost, the universities must be said to have a special responsibility for pure research, although no small amount of applied research is undertaken, even though most research of this category is organised outside the universities. The individual institutions have, to a varying extent, established contact with public or commercially determined research interests, and, to a certain degree, the research capacity of the academic institutions is used for applied purposes through cooperation of this kind. This particularly applies to the University of Trondheim where a *Society for Industrial and Technical Research* (SINTEF) has been established in connection with the Norwegian College of Advanced Technology. After many years' activity this society has a broadly based and well-established organisation.

Instruction in the methodology of research is an important part of the teaching in our academic seats of learning, and in recent years there has been an increasing tendency to use research as an active tool here. For the students it is not only important to acquire knowledge of new and relevant research results ; it is just as essential for them to be able to undertake a critical evaluation of earlier research findings, to set out a problem in a meaningful way to be dealt with as practically as possible, to collect relevant data and evaluate the evidence as objectively as they can whether or not it accords with the researchers' own presuppositions, and to distinguish clearly between facts and opinions in the presentation of their material so that the reader, too, can form an independent judgement of the facts available. It is felt that this aspect of research ought to be included in the teaching provided by the universities and the institutions in the regional college system.

Nevertheless, it is the case that the research commitment is stronger at the higher stages of teaching which we find exclusively in the universities and the specialised colleges of higher education. Here, research involves such resource-intensive activity that, within the universities, one must base it on binding cooperation and also accept a certain degree of task-sharing in different subject areas between the individual institutions. Particularly in natural science, technology, medicine and dentistry, advanced research demands such good equipment and a staff of such good technical assistants that it cannot be conducted in more than a few places in a small country like Norway. It must be expected that in a number of areas a greater degree of work-sharing will develop between the universities.

As far as arts and social science subjects are concerned, there is no great need for instruments, but the use of data-processing systems is becoming increasingly relevant, and research in these fields demands well-equipped libraries which it is not possible to establish in many places in this country.

On the other hand, one must also try to take account of the need for academic breadth. Significantly, a great deal of research today lies on the borderline between traditional subjects. If a sufficiently large, inter-disciplinary environment is to be created for such research, many different subjects must also be established in the same place. At the planning stage, one must find the right balance between these two considerations. Regional development policy, however, has also had an influence on the establishment of new research activity. The decentralisation of educational provision through the system of regional colleges has had a decisive influence here. Staff who were interested in research and were competent to undertake it were appointed to the new teaching institutions, which naturally led to research activity that has made the Regional Colleges part of the research system.

As far as the Regional Colleges are concerned, it is felt to be most natural for them to develop their own research centres for certain subjects in the humanities and social sciences and for certain industrial or cultural areas of particular significance to the region concerned. It is here that the Regional Colleges have their greatest potential. Investigations show that the Regional Colleges are engaged in research and reporting activities which are relatively strongly oriented towards regional matters and problem areas. Contact with the local surroundings is also quite extensive, and in three counties the council has established research organisations in close association with the Regional Colleges. Nevertheless, the Regional Colleges do not stand out as service centres and reporting agencies for the region, but as seats of research with a relatively high commitment to pure research. The regional orientation is clearly there, but here, too, research activity is mainly conducted in accordance with the researchers' wishes.

HIGHER EDUCATION IN NORWAY

A survey of total research and development activity is presented in the table overleaf. The information has been taken from NAVF's (*The Norwegian Research Council for Science and the Humanities*) statistics on research and development activities, based on definitions and guidelines for the recording of research expenditure worked out by OECD.

Table VII. 1

Expenditure on research and development according to sector in 1963, 1970, 1977 and 1979

Year	1963	1970	1977	1979
Sector	Mill NOK	Mill NOK	Mill NOK	Mill NOK
Higher-education institutions				
Total	94.4	286.0	907.4	982.7
Running costs	64.6	244.0	773.1	—
Research Institutes				
Total	157.3	329.4	958.8	1,229.9
Running costs	132.0	299.7	859.6	—
Commercial laboratories				
Total	96.7	275.6	850.0	1,026.5
Running costs	83.7	258.0	747.4	—
Sum				
Total	348.4	891.0	2,716.2	3,239.1
Running costs	280.3	801.7	2,380.1	—

The table shows a sharp increase in research expenditure between 1963 and 1979. For universities and colleges, the steepest increase was up to 1977 when this sector's share of the total amount spent on research was over 33% compared with 27% in 1963. Over the last few years, however, the teaching institutions' share has again slightly dropped — it was a good 30% in 1979.

Research in universities and colleges is mainly financed by public funds which in 1977 covered almost 96% of the costs.

Approximately NOK 650 million, or more than 71% of the money, was granted over the budget of the Ministry of Church and Education.

In 1979 the money made available for research in universities and colleges was shared as follows between the different subject areas:

RESEARCH AS PART OF THE SYSTEM OF HIGHER EDUCATION

— Humanities	NOK 113.3 million
— Social Science	NOK 132.3 million
— Mathematics and Natural Science	NOK 300.2 million
— Medicine	NOK 268.0 million
— Agriculture	NOK 72.9 million
— Technology	NOK 96.0 million
— Total	NOK 982.7 million

Roughly 53% of the total amount went to pure research and 34% and 13% respectively to applied research and development activity.

Measured in terms of research working years, research activity in universities and colleges amounted to 2,816 working years in 1979. In relation to the 1970 level, this meant an increase of over 57%. A complete survey of academic staff in universities and colleges is given in the table below:

Table VII. 2

Research and teaching staff in academic posts in the university and college sector on 31 December 1977 according to appointment and sex

Appointment	Univ. and college sector excluding regional colleges		Regional Colleges		Total univ & college sector		Sum
	Women	Men	Women	Men	Women	Men	
Professors	26	640	—	—	26	640	675
Readers	22	404	—	—	22	404	426
Other permanent posts	317	1,681	26	255	343	1,936	2,279
Total permanent staff	365	2,734	26	255	391	2,989	3,380
Other academic staff ¹	76	543	—	3	76	546	622
Total academic staff	441	3,277	26	258	467	3,535	4,002
Univ & college research scholars	34	218	—	7	34	225	259
Univ & college research assistants	139	596	—	1	139	597	736
Research council scholars	51	181	—	2	51	183	234
Research council research assistants	49	185	—	1	49	186	235
Other staff in recruiting posts ¹	35	110	—	2	35	112	147
Total staff in recruiting posts	308	1,290	—	13	308	1,303	1,611
Total research and teaching staff in academic posts	740	4,567	26	271	775	4,838	5,613

¹ Staff without a permanent post funded through the budgets of the universities and colleges; for examples, permanent medical specialists, temporary medical specialists, etc., in university hospitals, and research workers funded externally.

In 1979 research staff in universities and colleges totalled 5,824, of whom 1,686 were in recruiting posts.

VIII

ADULT EDUCATION

In the task of extending educational provision at the higher level to include new groups of people, the organisation and planning of the courses offered in the individual institutions is an important factor. These institutions are increasingly required to meet the educational needs of the population in general and not only of those groups of people who have followed the normal progression from one educational level to another and can avail themselves of a traditional full-time course of study. In addition, an increasing need is being felt for in-service training and refresher courses among graduates who have already completed a first degree. These new demands now being made on the colleges and universities for refresher courses and alternatives to the normal first-degree courses can be grouped under the label "adult education".

Adult education at all levels in the educational system is governed by a special Adult Education Act which came into force on 1 August 1977. With regard to the distribution of responsibility at the level of higher education, the Act provides that the Regional Colleges are the responsible bodies for first-degree courses within adult education and also for in-service training and refresher courses included in the regional college system. Alternative first-degree courses and refresher courses in the university sector come under the normal governing bodies of the universities.

We have previously mentioned the engagement of the Regional Colleges in the field of adult education. Here, adult education has, from the start, been an important part of the colleges' sphere of activity. In the universities, refresher courses have long traditions, and the profession-oriented faculties in particular have been active in this area. When it comes to alternative first-degree courses, however, provision is still very limited. Nevertheless, this is a field in which it is expected that

efforts will be intensified in the years to come. The following brief survey shows the alternative first-degree courses offered by our universities and colleges on 15 November 1980 :

University of Tromsø :

- History foundation course (distance teaching).
- German foundation course (distance teaching).
- Mathematical analysis I (distance teaching)

University of Bergen :

- Psychology foundation course (evening teaching).
- Economics intermediate course (distance teaching).
- Local history — half-year course (distance teaching).
- English foundation course (evening teaching, starting in 1981).

University of Oslo :

- German foundation course (evening teaching).
- The teaching of adults (distance teaching).

In the spring of 1981, however, a conference is to be held with representatives from the universities, the adult education organisations and trade unions, at which future plans for work in this field will be discussed.

Among other special higher-education courses provided at first-degree level, mention should be made of the decentralised teacher training in Northern Norway. Primarily, this is a form of educational provisions which has come about with a view to training teachers in local authorities and schools with a particularly poor supply of teachers. The first decentralised provision was for nursery school teachers and was started in 1978. The first course for ordinary teachers began in the autumn of 1979. The education offered is equivalent to the normal three-year course provided by the colleges of education, but it is intended to be spread over four years. The first three years are organised as part-time study which allows the students to live at home with the exception of periodic gatherings for intensive study. The final year of training is organised as full-time study for which the participants are together with the other students at the college of education concerned. Altogether 135 students started decentralised teacher training in the autumn of 1979. They will finish their training in the summer of 1983.

The extent of adult education activities in the higher-education institutions will be clear from the table on the next page. The statistics apply to the academic year 1978—79, which means that the decentralised teacher training scheme in Northern Norway is not included in these figures. The activities include both refresher education and other adult education courses and are specified according to type of institution :

HIGHER EDUCATION IN NORWAY

Table VIII.1

Type of institution	Courses	Participants (1978-79)				Hours	Average number of hours
		Total	Men	Women	Un-specified		
Universities and Colleges	468	11,933	5,811	3,191	2,931	25,981	58
Universities	222	5,471	3,659	1,357	455	9,234	42
Regional Colleges	118	2,917	756	460	1,701	3,526	34
Colleges of Education	58	1,565	352	438	775	9,069	159
Colleges of Engineering	6	41	35	6	—	1,128	188
Other colleges	63	1,939	1,009	930	—	3,024	48

Outside the educational institutions, the adult education organisations also offer higher education. Folkeuniversitetet (literally the People's University), which is the adult education organisation which has been most active in this field, has for many years been organising higher-education study circles. These study circles are to provide an introduction to the content of the subject, to inculcate methods of work, and to present subject-areas at university or college level. This activity, too, is governed by the Adult Education Act, which provides that the Regional Colleges are to be the bodies responsible for approving such study circles. In addition to academic recognition, this also means granting approval for the start of a study circle because it is the Regional College Steering Committee which bears the main responsibility for the provision of higher education in the region and can thus best judge the need for what is proposed.

The work of the adult education organisations contributes to an increased geographical spread of higher-education provision. In 1978/79 there were altogether 855 study circles with a total of 22,686 participants. Each study circle had an average course-length of 60 hours.

With regard to the financing of adult education, the Adult Education Act states that alternative first-degree courses are to be completely covered by public funds. In the case of refresher education and short courses which are not part of a first-degree curriculum at higher-education institutions, the state covers 80% of the costs within the limits of what is granted by the Storting.

For study circles run by the adult education organisations, the state provides a grant of 80% of the costs in accordance with a stipulated cost factor. Beyond what is included in the cost factor, the state also grants financial support for the administration of courses of study organised by the nation-wide organisations.

In addition to the work in adult education mentioned above, which is governed by its own Adult Education Act, it should also be noted

ADULT EDUCATION

that the universities, too, have devised special provision in the form of part-time courses, lectures and seminars in the afternoons and evenings. This is not considered as an alternative to first-degree work in the sense that these courses are specially designed with an eye to applicants with experience in the working world, but, in reality, they do represent more flexible provision than the normal courses of study and, to some extent, these courses are open to working adults. In this context there is both examination-oriented and examination-free teaching, with an emphasis essentially on the former. Students who intend to sit for the examinations following these courses must have passed the prescribed preparatory examinations and have been given a place in the faculty concerned.

IX

METHODS OF TEACHING AND EVALUATION

Studies at a university or specialised college of higher education aim at providing both general and particular knowledge and at encouraging independent thought and an academic attitude, all these things being a necessary precondition for possible academic work later on. Traditionally, academic education was based on freely organised studies; but over the years, especially in the more vocationally oriented disciplines, a firmly organised form of teaching has long since evolved, so that a somewhat different pattern of teaching has emerged in the universities.

In the strictly organised courses of study, there is far greater efficiency than with the more loosely organised courses. While the freely organised courses have a very high drop-out rate and many of the students who complete their studies do so with considerable delay, the strictly planned courses are completed by 90% of the students and there is good correspondence between the time students are intended to take the examination and the time they do in fact take it. This may in part be due to the selection of students, because admission to the strictly organised courses is restricted, which means that these courses to a large extent attract the most able students. However, the crucial factor is, nevertheless, the organisation of the course of study, with a clearly defined common structure and well-planned follow-up of the individual student's progress. Furthermore, it is generally the case that for these courses considerably greater resources per student are often invested than with the freely organised, open courses. However, when considering the drop-out rate for the loosely organised courses, one must bear in mind that some of the students intend to use only parts of the total course as components in their education. This amounts to a conscious, planned termination of study before the examination and cannot be called dropping out in the normal sense of the term.

Freely organised courses of study are to be found in the Faculties of Arts, Law and Social Science. The Faculty of Mathematics and Natural Science comes somewhere in between. The freely organised courses of study were, for many years, open in the sense that anybody who satisfied the general admission requirements could register as a student and complete a degree course; but gradually the pressure on places became so heavy that formal, and indeed often real, restrictions of entry have been introduced in the Faculties of Arts and Social Science. Also, for the freely organised courses, as well, quite detailed plans have been worked out in some cases, together with an ideal time to be allotted to the course, but the total time students take usually turns out to be considerably longer than planned. The teaching is usually partly in the form of lectures and partly in the form of seminars and practical sessions.

The vocationally-oriented courses of study outside the universities, such as teacher training and the education of social workers, journalists and librarians, are often strictly structured, with all students within the same subject-area following the same course plan at the same pace.

Right from the very first trial years, the Regional Colleges have been free to try new forms of teaching and, as far as resources have allowed, the colleges have tried to walk new paths to create an alternative educational opportunity, (in a purely pedagogical sense as well). The teaching in the Regional College is very much based on the students' own activity and group work, and the idea of lecturing is regarded with some skepticism. Cooperation in small groups of 3-8 people, often dealing with case-type studies, has been found to be an appropriate method of work in some subjects. The same course unit is often used as a component in several courses of study, so that students whose final aims are different are, in many cases, brought together. This increases the opportunities for gaining all-round insight into academic subject-areas. In order for students to have sufficient time for independent academic study in depth, the organised teaching provided usually amounts to 12-20 hours per week.

Devising courses of study and planning the teaching in higher education are the foremost matters for the individual institutions within the general framework of the resources available. At the same time, there is a desire to see the individual courses of study as elements of the total sum of provision in higher education. An important prerequisite for achieving more combinations of different types of courses and thus bringing about greater flexibility in provision and subject-combinations, is appropriate forms of evaluation which can be used across faculty boundaries and across borders between individual institutions. On the other hand, the form of evaluation has an enormous influence on the organisational structure of courses of study, on the students' attitude towards their work, and on the way in which both the students and the institutions concerned allocate their time and resources. New courses

of study and methods of teaching often also demand a change in the form of evaluation if the intention of the course planners is to be fully realised. Above all, during the development of new courses in the Regional Colleges, these conflicting considerations may create a dilemma. However, the Ministry's attitude here is that all higher-education institutions should have freedom to experiment with forms of evaluation and that the practical problems that this causes when students transfer to studies with a more traditional examination set-up can be solved through cooperation between the institutions.

Formerly, evaluation was largely looked upon as a means of checking students' knowledge, and examinations are still often used to judge a person's competence. However, as a result of the way things have developed, tests of pure knowledge have gradually come to have a limited value, because knowledge is superseded by new knowledge more rapidly than ever before. It has come to be realised that satisfactory evaluation must be gradually extended to include more aspects than pure knowledge. Today, evaluation is looked upon as an important part of the learning process, and it is important that students be encouraged through the system of evaluation to take greater responsibility for their own education. It is also essential that the form of evaluation should be made as relevant as possible to a student's later work. Attempts are being made to achieve this kind of relevance by directing the form of evaluation towards students' ability to raise problems themselves, to seek information and demonstrate creativity.

The Regional Colleges have been particularly active in their efforts to devise new forms of evaluation which are primarily intended to be an aid to learning. This means, for example, that tests taken during a course of study need not have the character of public examinations, but are meant to inform students whether they satisfy certain minimum requirements of knowledge. Nor is there any need for the form of evaluation to be a traditional final test at the end of a semester. In the course of their studies, students must carry out certain assignments in the form of reports, summaries, essays, contributions to debates, and so forth. Through a system of assignments of this kind it may be possible to convey information to the student in the form of evaluations and guidance without the use of a finely-graded scale of marks. The students can avail themselves of sources of information which they would have used in a corresponding situation in the world of work. Group examinations are also used as part of the evaluation procedure in several Regional Colleges.

In the universities and the specialised colleges of higher education, students' competence for further study or entry into professional life is still decided, with few exceptions, by traditional forms of evaluation. However, a certain amount of innovation and rethinking can be expected here, too. The Ministry has expressed the view that a form of evaluation more in line with the central problems in society and working life will

METHODS OF TEACHING AND EVALUATION

probably have a more favourable effect on the students' situation than is the case today. Nevertheless, it is emphasised that both students and society have a need for certainty that a particular course of education really does lead to the intended level of knowledge.

This is an essential prerequisite for harmonious transition both to further studies and professional life. A reshaping of the present systems of evaluation in higher education must not, therefore, lead to reduced competence for work or study. In many cases, however, there will be a need for a more penetrating analysis of, and perhaps also a redefining of, what competence means in connection with work or study.

X

ADMISSION REGULATIONS

As would be expected, structural changes and expansion in the educational system as a whole have led to a radical reappraisal of admission requirements at the higher-education institutions. Over the past 10—15 years educational policy has had as one of its major aims the securing of equal educational provision for all groups of society, so that every individual shall, to the greatest possible extent, be able to choose the kind and level of education to suit his/her abilities and interests. In addition, society has come to need people with different and "new" types of qualification, and these purely practical and economic needs of society have also militated towards liberalisation of admission requirements.

New admission regulations for higher education have not yet been laid down, and a considerable amount of work still remains to be done before this can happen. The educational institutions themselves are to work out proposals for admission regulations, but they will have to be approved by the Ministry. With the guidelines that the Ministry has drawn up, which on the whole have gained the support of the Storting, we may expect a considerable degree of liberalisation. This will be a continuation of a process of liberalisation that has been going on for a number of years, and here we shall give a brief account of this trend up to the present day.

The most usual and, until a few years ago practically the only, qualification which opened the door to higher education was Examen Artium (roughly equivalent to GCE 'A' level in England) or the final examination at an upper secondary school of economics. This meant, in fact, a purely theoretical general education which in its very roots was designed for people going on to further study at university level. It served as evidence of general competence to study, which in principle meant unrestricted admission to all higher education. In practice, however

ADMISSION REGULATIONS

things were often different. In the case of a number of degree courses, restriction of admission has been a fact ever since the war. In certain instances, strict admission requirements have been applied such as Examen Artium with a specified combination of subjects and with selection being based entirely on marks. However, admission requirements have varied in the course of time depending on how restricted admission was to certain courses of study. On the whole, it was the formal qualifications which were stressed when regulations were laid down for both general and particular requirements for admission to higher education. Nevertheless, in certain educational institutions, it was possible in exceptional circumstances to admit applicants who could produce documentary evidence of real competence without having trodden the normal educational path. The requirement was, however, an educational qualification equivalent to Examen Artium. Another exception was the special arrangements whereby the Examen Artium requirement in principle only applied to certain subjects, but, other requirements concerning previous education were also included. Finally, some educational institutions, colleges of education and technical colleges, offered special courses of longer duration for applicants without Examen Artium. Nevertheless, these exceptions represented only a small fraction of the total number of students, and in the 1950s and 1960s, the tendency was rather for the Examen Artium requirement to be used in practice to an ever-increasing extent even for courses of training of intermediate level. The Regional Colleges, however, have, from the start in 1969, admitted applicants with other qualifications than Examen Artium, provided they could produce documentary evidence of true competence to study. In the first years, between 10% and 20% of the students were admitted on this basis.

The first great step in the direction of real liberalisation of admission requirements for higher education was taken when the rector meeting set up a special Matriculation Committee which presented its report in November 1971. The committee recommended that admission to universities and colleges should be granted on the basis of an applicant's true competence, provided that new admission regulations should not mean any lowering of standards in the higher-education institutions. As far as the concept of true competence was concerned, the committee provided the following definition:

1. Motivation to study at university level, combined with a realistic awareness of what such a course of study demands and implies.
2. The ability to do concentrated, independent and sustained work involving theoretical or practical/theoretical material.
3. A general practical and/or theoretical background enabling one to place one's course of study, special subject or special area in a wider perspective.

4. Competence in the mother tongue and English (or another world language) so that one can study specialised literature effectively and extensively and communicate orally and in writing about academic problems. This is a prerequisite for active and fruitful participation in university teaching.

On this basis, the Matriculation Committee described three ways which ought to lead to the right of admission to universities and colleges:

1. The way through specified, recognised schools.

2. The way through specified schools with supplementary education. This way includes a number of other two-year and three-year schools and certain types of compound school-education and working experience.

3. The individual way. Here the Matriculation Committee, was thinking of people who, in some other way, perhaps through their activities in a trade or profession, in a trade union, or in social work, had gained the necessary true level of competence.

In connection with point 3, the Committee stated that the individual university or college must be in a position to declare an applicant competent to study at the institution concerned when he has been working for five years and has demonstrated through his work the qualities of independence, perseverance, and concentration, and, at the same time, can provide evidence that he has acquired a certain level of competence in the mother tongue and in English. Practically all the institutions have, in principle, accepted the different ways leading to the right to study which the Matriculation Committee proposed, and today most courses of study are open to students without the formal Artium examination. As a rule, however, there are requirements for Artium level in certain subjects. Some courses of study have their own quotas for applicants with different backgrounds from a complete, formal education, but not all courses are as liberally organised here. Very few courses of study have a requirement for compulsory previous practice, but it is, nevertheless, normal to give extra credit for practice which is directly relevant to a particular sphere of work.

Since the aforementioned innovations, the Ministry has gone even a step further. In a report to the Storting in the autumn of 1979, it proposed that the three-year upper secondary school should give pupils a general right to study without any demand for a minimum number of hours in general subjects. The Ministry also developed a Policy that equates occupational training schemes with education at school, so that completed vocational training in a firm should mean a general right to study. Work with vocational subjects also requires motivation, concentration and independence in planning and execution; it provides insight into working life and social conditions, so that after three years' work with a practical subject at school and in a firm, a pupil has good

ADMISSION REGULATIONS

factual qualifications for higher education. Also working experience which has not led to any specific educational qualification shall now constitute grounds for admission to higher education, on the condition that the applicant is over 25 years old and has at least five years' working experience. The Ministry's justification here is that practical work over a number of years develops a of realistic insight into one's own skills and abilities and also an understanding of the demands of higher education, so that unnecessary formal obstacles should not be placed in the way of people wishing to embark on such studies.

The rules outlined here all apply to general study competence, that is to say, the minimum requirements that must be satisfied before one can enter higher education. However, for some courses of study it will be necessary to impose particular additional requirements in order to ensure that applicants do have a real possibility of completing their studies. This is considered necessary both with regard to the use of resources and for the sake of the individual applicant. Attempts are being made to provide facilities for as many people as possible to acquire the necessary supplementary education if they wish to do so. The Adult Education Act has increased the possibility for new groups of applicants to acquire the prerequisite education in particular subjects through single-subject examinations in the upper secondary school. It was not found to be appropriate for courses of this level to be provided by the universities.

A good many unsolved problems remain when it comes to laying down rules for particular study competence. In this connection the Ministry believes it is important to keep in mind the liberalisation which has taken place in the way general study competence is viewed so that this trend can be embodied in rules for particular competence for study. It is to be expected that the new rules will place greater stress on an applicant's true qualifications and attach less importance than today to judging a person's potential ability to study on the basis of formal education. The Ministry feels it is most important that the new rules for particular study competence should, as far as possible contain no element of social or geographical discrimination.

In principle it is desirable to have free admission to all higher education within the framework of the competence requirements in force. At the present time, however, this is an unrealistic goal. On the contrary, it may be necessary also to restrict admission to a number of courses of study which have hitherto been open, since a continued, uncontrolled increase in the number of students will create impossible working conditions both for staff and students. Lack of capacity with the subsequent restriction of admission to courses of study is regrettable because it prevents free choice of education and occupation for otherwise competent and motivated applicants. Moreover, it is felt to be very dangerous to make the competence requirements stricter for courses of study with restricted admission because this easily brings about a skewed

HIGHER EDUCATION IN NORWAY

distribution of the most competent young people between different areas of study. Experience shows that courses of study with strict admission requirements are easily considered to be particularly attractive and thus acquire an unintended stamp of catering for an élite. Tendencies of this kind have been noticed in the case of certain courses, and it is hoped as far as possible to avoid such developments in the future.

The question of establishing a central admissions service for higher education has been considered but has won little support from the institutions themselves. The Ministry believes that a central admissions service would help to ensure that the total capacity of the educational institutions was better used, and at the same time it would provide better and more reliable statistics of applicants for higher education. Improved statistical analysis of students would be of considerable help for continuous planning of developments in higher education in the years to come. A central admissions service would also help to prevent the most sought-after universities and colleges from developing into élitist institutions, hitherto an unknown phenomenon in the Norwegian educational system in general. As far as the practical organisation of a possible central admissions service is concerned, this will have to be considered in greater detail in cooperation with the institutions concerned.

Students at higher-education institutions do not pay fees. Tuition is free, although students have to pay a modest registration fee and a semester fee which mainly goes to welfare measures for the students.

XI

FINANCIAL HELP AND SOCIAL WELFARE MEASURES FOR STUDENTS

An important element in the efforts being made to bring about equal educational opportunity for all groups in society is public financial aid to students and the development of social welfare measures for those who are studying. Public activity in this field began a few years after the war.

The State Educational Loan Fund was established by the Act of 6 June 1947. The Fund provides loans for students at Norwegian universities and colleges and numerous other educational institutions, for example at upper secondary level. Loans are also given to Norwegian students at foreign universities or colleges of higher education. On certain conditions, loans may also be granted to aliens who are political refugees in Norway or who have a permanent connection with Norway through employment, marriage or family. Since the academic year 1977—78, new rules have been introduced for applicants from developing countries. These applicants can now receive support without previous residence in Norway if they have been offered a place at a Norwegian educational institution and have been granted a residence permit here. Loans are granted without financial security and are free of interest while the recipient is studying. The period of repayment is up to 20 years after the course of study has been completed. When loans are granted, account is taken of the applicant's income and wealth and the wealth of any marriage partner. When the applicant is under 20, account is taken of the parents' income and wealth.

The size of the loan is regulated according to whether the applicant lives at home or away from home while studying.

In addition to loans, aid is also provided in the form of grants. There are several types of grant:

A *Living-away grant* is awarded when the distance between home and place of education is more than 40 km. The grant is payable without

reference to the parents' means. For married applicants, account is taken of the partner's means if they are living together.

The *Basic grant* is awarded after a means test which takes account of the applicant's income and wealth and the wealth of any marriage partner. A means-tested *Maintenance grant* is given to applicants supporting a marriage partner and at least 2 children.

For Norwegian students abroad who are included in the grant system there is a *Fees grant* which covers the cost of tuition in full or in part, provided the corresponding course of study in Norway has restricted admission. There is also a *Travel grant* which covers up to 50% of the fare between the place of study and Norway.

The size of loans and grants has been constantly adjusted from one year to another, partly as a result of the general rise in the cost of living, and partly because the intention is gradually to be able to give students the same progressive improvement in their financial situation as for working people. In order to achieve this, use is made of a cost norm which was agreed upon for 1976-77 and which is regulated in step with the growth in average net income for married male industrial workers with two children.

For the academic year 1977-78 77% of students in higher education received financial support in the form of loans and grants. The total support per recipient amounted to NDK 16,689 of which about 19% was grant. Public expenditure on loans and grants for students in higher education the same year totalled NDK 856.5 million. In addition there are expenses in connection with the administration of the State Educational Loan Fund plus the fact that students pay no interest while they are studying. Since the academic year 1969-70, the total sum allocated to loans and grants has nominally risen by 85%, the true increase being on average 4.8% per year.

In addition to the above-mentioned types of financial assistance, there are various forms of social welfare measures for students. Students at the traditional academic seats of learning, that is to say the universities and the specialised colleges of higher education, have for many years had comprehensive welfare provision organised by their own Students' Associations run by the students themselves. The first Students' Association was created by the Act of 1939 and covered the students at the University of Oslo. Subsequently, since the Act of 1948, Students' Associations have been established at the other universities and the specialised colleges of higher education. The activities of these Associations include the building and running of student accommodations, the running of canteens, kindergartens and health service; provision of sports facilities and various cultural offerings, the organisation of an advisory service, and the offering of various other kinds of services.

These activities are financed partly by means of subscriptions from the members plus a portion of the ordinary semester fee at the univer-

sity, and partly through state support given both directly in the form of a grant in the national budget and indirectly in the form of rent-free premises and other gratis benefits provided by the institution. In 1977, the direct grant to the Students' Associations through the national budget amounted to roughly NOK 10.2 million. In addition to this, state support is granted to cover up to 50% of the costs of building new student accommodations. The remaining 50% is financed through loans in the State Housing Bank.

In 1977, a good 43,000, or about 65% of students in higher education were members of a Students' Association. The majority of them, 39,000, were at universities or specialised colleges of higher education. At other higher-education institutions, where Students' Associations have hitherto not been organised, the provision of welfare measures has not been developed to the same extent. To the extent that welfare provision has been established, it is under the administration of the individual college. The extent and quality of welfare services can thus vary from college to college. At the other higher-education institutions there has, until now, not been any legal basis for organising Students' Associations. A special committee has now considered the need for welfare provision for both students in higher education and pupils at the upper secondary level. The committee draws attention to the uneven distribution of welfare provision and proposes a new general Welfare Act covering all pupils and students after they have completed their compulsory schooling. A strengthening of welfare provision can therefore be expected in educational institutions outside the universities and specialised colleges of higher education.

XII

FOREIGN STUDENTS IN NORWAY

Applying for admission

The general admission requirements for applicants with a foreign educational background are largely similar for all Norwegian universities.

Since application procedures and deadlines vary from one university to another, students can obtain exact information from the institution to which they are seeking admission.

When requesting information, students should give a full account of their previous studies and mention the subject or course of study they wish to follow at a Norwegian university. Students should also include officially certified copies of their certificates or degrees, i.e. copies which have been stamped and signed by a school administrator or lecturer or by a notary public verifying their authenticity. If the original is not in English, French, German or Norwegian, an official translation into one of these languages must be included.

One should know that many courses of study have restricted admission. This implies that being accepted for admission should not be interpreted as an acceptance to a particular faculty/department or a special degree programme, but only as a general admission to the university.

Knowledge of Norwegian

Instruction at universities and other institutions of higher learning in Norway is practically always in Norwegian. Proficiency in Norwegian is therefore essential. Some subject areas demand a specific level of proficiency in Norwegian.

Those who do not already have a knowledge of Norwegian usually need at least one year of intensive study in order to acquire the necessary proficiency. Courses in Norwegian are offered at most Norwegian universities.

FOREIGN STUDENTS IN NORWAY

A good reading knowledge of English is also essential, as textbooks are often in this language.

Preparatory Examinations

Most universities in Norway require that students pass the *Examen Philosophicum*, logic and psychology. In most cases, this examination must be passed before the student can begin departmental studies.

In order to study languages, students must pass an additional one-semester preparatory examination in phonetics and general linguistics ("forprøver i fonetikk og språkvitenskap") at least one semester before taking a departmental examination.

Before receiving a degree from the Faculty of Social Sciences, students must pass an examination in statistics.

Foreign students may apply for exemption from *Examen Philosophicum* if:

1. They can document successful completion of a comparable examination.
2. They intend to take an examination in only one subject at a Norwegian university, and plan to include this examination in a degree programme at a university outside Norway.
3. They already hold a university degree which is comparable in level to the lower degree (Cand. mag) at a Norwegian university.

Evaluation of foreign degrees — transfer of credit

Students who have completed university studies in their home country, beyond what is required for matriculation at a Norwegian university, may apply to have these evaluated within the Norwegian degree system.

Such applications are evaluated individually, and only after the student has been accepted for study at a university in Norway.

This evaluation generally takes some time (3—4 months), and because of the differences in the various degree systems students cannot always expect to receive full credit for their previous education.

Cost of living

Foreign students often find that prices are very high in Norway compared to most other countries. The State Educational Loan Fund estimates the average expenditures for Norwegian students to be Nkr

2300. — per month (accommodation, food, clothing, transport, medical and dental care, university fees and other necessities). This estimate is made for 1980/81.

By economizing, it may be possible to reduce living expenses somewhat, but in any case NKr 1600. — per month should be considered as the absolute minimum requirement to cover basic living expenses.

Scholarships

The universities in Norway offer no special scholarships to foreign students.

Norway has a reciprocal cultural exchange agreement with a number of countries. A limited number of scholarships are awarded annually under this agreement.

Loans

The State Educational Loan Fund in Norway is established to give financial assistance to Norwegian citizens. Special rules apply to citizens from other Nordic countries.

On certain conditions, citizens from outside the Nordic countries may be eligible for student loans.

Work permit

From 1 February 1975 and until further notice an immigration ban is in effect in Norway. This means that a first-time work permit is not given to foreign citizens who wish to work in Norway. In certain cases the authorities may grant exemption from this regulation. Such an exemption applies to foreign students who may be granted work permits for part-time jobs (maximum 20 hours per week) and for vacation jobs.

As a general rule, no work permit is given during the two first semesters of study.

A student's progress of study is taken into consideration by the police immigration authorities when processing an application for a student work permit. This applies both to the first-time application and to an application for renewal of a student work permit.

Accommodation

The housing situation is very difficult in Norway and a place to live is both expensive and hard to find.

FOREIGN STUDENTS IN NORWAY

The Student Welfare Organizations operate a number of student hostels, and a limited number of rooms/apartments are reserved for foreign students. Rooms are allocated according to special priority rules, and new foreign students can apply for housing when sending in the application for admission.

Health insurance

By registering at a university and paying the semester fee at the beginning of each semester, students automatically become members of the Student Welfare Organization. Registered students will become members of the local branch of the National Health Insurance Scheme by applying on a special form, which may be obtained at the Student Welfare Organizations, offices for foreign students or at the local health insurance offices. This insurance covers all hospital expenses and is free of charge.

XIII

CONCLUDING SUMMARY AND FUTURE PERSPECTIVES IN HIGHER EDUCATION

The radical reshaping and development of higher education in Norway over the past 10—15 years has its basis and beginning in the enormous amount of investigative reporting carried out in the second half of the 1960s by the Committee established to consider the question of further educational provision for pupils with Examen Artium and others with equivalent basic education. The Committee was appointed by Royal Decree on 6 August 1965 and in the course of the next five years it issued five different reports which broadly discussed the educational policy that was to form the foundations of higher education in Norway in the 1970s and 1980s. The Committee's proposals for solutions led to lively and extensive debate. There was an interest in the complex problems surrounding higher education that had never been experienced before.

When the Ministry of Church and Education, in a report to the Storting in the first half of the 1970s, drew up guidelines for an educational policy in this sector for the years ahead, it was thus building on a well investigated and thoroughly discussed foundation. In the main, the suggestions presented by the committee were followed.

In the 1960s, there was a great need for expansion in higher education, but for a number of reasons it was obvious that at the same time there would have to be a process of restructuring and an extension of subjects at this level. A changing society demanded people with high qualifications in areas which hitherto had lain outside what was narrowly defined as higher, academic education. The raising of the general level of education led to a demand for higher education from a growing proportion of the population, and gradually the applicants increasingly came from different social groups in our society.

In other words, it was necessary to rethink the subjects of higher education and to initiate a process of democratisation. This was also in line with the Government's general policy for schools which had already

CONCLUDING SUMMARY AND FUTURE PERSPECTIVES IN HIGHER EDUCATION

gone a long way towards realising the principle of equal educational opportunity for all both at the level of compulsory education and at the upper secondary level. It is hoped that it will be clear from what has been said earlier how Norway has tried to solve the problems of satisfying the new demands now being made of higher education. Decentralisation and flexibility have been the prime considerations we have tried to keep in mind in the practical task of structuring educational provision at this level. Decentralisation was achieved through the development of Regional Colleges which have gradually come to offer varied educational provision of 1—3 years' duration.

There still remains some work to be done in the process of reform and expansion to which the Government is committed. The revision of the academic content of the various courses of study is viewed as a continuous process, since here it will be necessary to bring syllabuses up to date in accordance with the results of the latest research and, at the same time, potential new fields will gradually demand their place within higher education.

Furthermore, work is still in progress concerning the problems of competence which arise both with reference to entry into working life and admission to further study. An important prerequisite for ensuring the desired flexibility in the system is the possibility of transfer between different courses of study or combining parts of different courses. This harmonisation of studies is well under way. The universities have, in principle, recognised examinations from the Regional Colleges as equivalent to parts of a degree course, and most examination regulations have been amended in conformity with this. There is still a certain amount of work to be done, however, when it comes to clarifying the way in which examinations at a number of other higher-education institutions can be fitted in to courses of further study at the universities.

It is expected that more people will be wanting to enter higher education. For young people, the figures will show weak growth in the years ahead. In its Long-Term Plan for 1982—85 the Government has committed itself to further expansion in higher education. In particular, priority will be given to increasing the number of places in the regional system of colleges. It is reckoned that the number of applicants here will increase by 2—3% per year. The number of students in higher education altogether is expected to increase by 0.5% per year.

There will be a particular need to strengthen the technical sector within higher education. This is in particular due to new types of continental shelf activity and a growing need for staff in the data processing sector. A broad strengthening of higher technical education will be a clear prerequisite for Norwegian industry to be able to meet the demanding challenges that lie in the years ahead. In general, it is important to make our society better equipped to exploit the advantages and, to the greatest possible extent, avoid the disadvantages of technological development. To meet the needs for new staff, the Ministry intends to further develop the Norwegian College of Advanced Technology at the

University of Trondheim to a teaching capacity of approximately 1,000 graduating civil engineers per year against roughly 700 today. In addition we may reckon with 200 science graduates with technologically oriented education from the universities. At the Colleges of Engineering/Regional Colleges, which train engineers, the course of study will be extended to 3 years. This course will be able to count as the first part of a 5-year course for civil engineers in Porsgrunn and Stavanger.

With the recent and extensive reforms that have been carried out, it is reasonable to suppose that future perspectives on the further development of higher education do not concern structural or organisational changes. We believe that the full realisation of the plans which have been drawn up should certainly provide for satisfactory educational opportunity at the tertiary level in the coming decades, but there are facets of higher education which have still been little developed and which will be given increasing emphasis in the years to come. The process of democratisation does not only aim to iron out differences between different social groups, the sexes, and different geographical areas when it comes to recruitment to higher education; we also want the greatest possible levelling out between different age groups, and a certain tendency in this direction can already be noted. At universities and colleges there is a considerable distribution of age among the students. This applies both in total and to new students. Over the last few years the average age has increased considerably. In 1964 the 25-and-over age group accounted for 30% of the students at the universities, in 1978 the proportion had risen to 46%. From 1971 to 1978, this age group also increased its proportion in the colleges from 26% to 37%. It is in particular within Arts and teaching subjects that one finds students over 30, but there are also considerable numbers in social science and economics. Women are relatively well represented in this age group. Altogether, there must be a considerable amount of experience of working life among students in higher education, and it would appear that the tendency is towards a greater proportion of students with working experience. Adult education, in the form of refresher courses for graduates, in-service training, and further education leading to a particular qualification of a higher level than before or within a new area of study, will become increasingly relevant. The demand for flexibility and the ability of the working population to adapt themselves to new conditions, not the least among those who occupy the most demanding positions in terms of knowledge and ability, will also contribute to the promotion of the process of democratisation which is now under way in higher education, since both consideration for the demands of society and the business world and consideration for the democratisation of higher education presuppose a well integrated and flexibly running educational system able to serve different groups of applicants. Society needs highly qualified manpower and cannot afford to place unnecessary obstacles in the way of those who have the will and ability to improve their qualifications.

XIV

APPENDIXES

ANNEX 1

County-by-country survey of higher-education institutions in Norway in January 1981

Country	Educational Institutions
Østfold	Østfold Regional College, Halden, Os allé 5, 1750 Halden. Halden College of Education, Halden Remmen, 1750 Halden. Østfold College of Engineering, Valaskjold, 1712 Valaskjold. Østfold College of Nursing, Fredrikstad Raktor Østbyesgt. 1, 1600 Fredrikstad
Akershus	Østfold College for Mental Nurse, Fredrikstad 1600 Fredrikstad. The Norwegian College of Agriculture, As 1432 As-NLH. The State College of Education for Arts and Crafts, Blaker 1925 Blaker. The State College of Education for Commercial Subjects, Hosle P.O. Box 38, 1347 Hosle. The State College of Education for Domestic Science, Stabekk 1340 Bekkestua. The State College of Education for Teachers in Special Schools, Hosle, Granåsen 4, 1347 Hosle. The College of Management, Bekkestua P.O. Box 69, 1341 Bekkestua The Red Cross Nursing College in Oslo and Akershus, Nordbyhagen, 1474 Nordbyhagen. The Special College for Psychiatric Nursing, Dekemark Hospital, Solberg, 1385 Solberg. Akershus College for Mental Nurses, Sandvika, P.O. Box 372, 1301 Sandvika. The Bærum College of Social Studies, Rud, Hauger skolevei 10, 1351 Rud.
Oslo	The University of Oslo, Blindern, Oslo 3. The Free Faculty of Theology, Gydas vei 4, Oslo 4. The Oslo College of Architecture, P.O. Box 6768, St. Olavs plass, Oslo 1. The Norwegian College of Veterinary Medicine, Ullevålsv. 2, Oslo 2. The Norwegian College of Music, P.O. Box 6877, St. Olav plass, Oslo 1.

HIGHER EDUCATION IN NORWAY

County	Educational Institutions
	The Norwegian College of Sport and Physical Education, P.O. Box 40, Kongså.
	The Norwegian College of Domestic Science, Nutrition Studies, Blindern, Oslo 3.
	The Academy of Child Welfare in Oslo, Prof. Dahlsgt. 30, Oslo 2.
	Sagene College of Education, Biermannsgt. 2, Oslo 4.
	Oslo College of Education, Wergelandsveien 29, Oslo 1.
	The State College of Education for Arts and Crafts, 1925 Blader.
	The Music Conservatory of Eastern Norway, Veitvetveien 8, Oslo 5.
	Barratt-Due's Institute of Music, Lyder Sagensgt. 2, Oslo 3.
	Institute of Education for Teachers of Vocational Subjects, Skedsmogt. 25, Oslo 6.
	Oslo College of Engineering, Cort Aderesgt. 30, Oslo 2.
	The State College of Handicraft and Applied Art, Ullevålsveien 5, Oslo 1.
	The Academy of Trade, Kronprinsensgt. 9, Oslo 2.
	The State College of Nursing, Bjerregaardgt. 21, Oslo 1.
	Ullevål College of Nursing, Kirkeveien 166, Oslo 1.
	Aker College of Nursing, Trondheimsveien 235, Oslo 3.
	The Nursing Sisters' College of Nursing, Lovisenbergveien 15, Oslo 4.
	The Norwegian Diakons' College of Nursing, Borgenveien 3c, Vindern, Oslo 3.
	The Red Cross College of Nursing, 1474 Nordbyhagen.
	Betanien College of Nursing, Akersbakken 35, Oslo 1.
	The Parish Sisters' College of Nursing, Rosenborggt. 8, Oslo 3.
	Oslo College of Mental Nursing, H.N. Haugesgt. 44, Oslo 4.
	The State Educational Centre for Health workers,
	The State College of Midwifery, Huk Aveny 56, Bygdøy, Oslo 2.
	The Special State College of Psychiatric Nursing, Huk Aveny 56, Bygdøy, Oslo 2.
	The State College for Health Visitors, Huk Aveny 56, Bygdøy, Oslo 2.
	College of Psychiatric Nursing, Dikemark hospital, 1383 Solberg.
	The Norwegian College of Nursing, Nordraakgt. 12, Oslo 2.
	The State College of Physiotherapy, Trondheimsveien 132, Oslo 2.
	The State Mensendiech College, Grønnegt. 10, Oslo 3.
	The Norwegian College of Social Science and Local Government, Økernveien 145, Oslo 5.
	The Diakons' College of Social Studies, Borgenveien 3c, Vindern, Oslo 3.
	The Norwegian Diakon College, Geltemyrsveien 45, Oslo 4.
	The Oslo College of Ergotherapy, Grenseveien 32, Oslo 5.
	The State College of Physiochemistry, the University Hospital, Rikshospitalet, Pilestredet 52, Oslo 1.
	Oslo Municipal College of Physiochemistry, Ullevål Hospital, Kirkeveien 166, Oslo 1.

County	Educational Institutions
	The State College of Dispensers, Sven Oftedals vei 8, Oslo 9. The College of Radiography, the University Hospital, Pilestredet 32, Oslo 1. Oslo Municipal College of Radiography, Ullevål Hospital, Kirkeveien 166, Oslo 1. The Norwegian College of Journalism, Frysjaeveien 33C, Oslo 8. The State College of Librarianship, Dølenenggt. 26, Oslo 5. The State College of Ballet, Tjuvholmen, Bygning B, Oslo 1. The State Academy of Art, Uranienborgveien 2, Oslo 2. The State College of Operatic Art, Veitvetveien 8, Oslo 5. The State College of Dramatic Art, Sørkedalsveien 106, Oslo 3.
Hedmark	Hedmark Regional College, Rena, Postboks 104, 2450 Rena. Elverum College of 2400 Elverum. Hamar College of Education, 2300 Hamar. Hedmark County College of Nursing, 2400 Elverum.
Oppland	Oppland Regional College, Postboks 193, 2801 Lillehammer. Gjøvik College of Engineering, Postboks 190, 2801 Gjøvik. Gjøvik College of Management, Postboks 149, 2801 Gjøvik. The Nursing College of the National Association and County Oppland, Ludvik Skattumsgt. 30/32, 2801 Gjøvik.
Buskerud	Kongsberg College of Engineering, Postboks 158, 3601 Kongsberg. Drammen Evening College of Management, Tolbugt. 42, 3000 Drammen. The Red Cross College of Nursing, Kongsgt. 51, 3000 Drammen. The College of Physiochemistry, Buskerud, Central Hospital, 3000 Drammen.
Vestfold	Eik College of Education, 3109 Lofts-Eik. Horten College of Engineering, Skppergt. 6, 3190 Horten. The College of Maritime Studies, 3106 Tønsberg. Sandefjord College of Management, Torget 1, 3200 Sandefjord. The Red Cross College of Nursing, Kong Halvdansgt. 14, 3100 Tønsberg.
Telemark	Telemark Regional College, 3800 Bø i Telemark. Telemark College of Education, 3870 Notodden. Telemark College of Engineering, Kjølnes, 3900 Porsgrunn. Telemark College of Nursing, Postboks 1408, 3701 Skien.
East Agder	East Agder Regional College and College of Engineering, Postboks 94, 4891 Grimstad. East Agder College of Nursing, 4800 Arendal.
West Agder	Agder Regional College, Postboks 607, 4601 Kristiansand S. Kristiansand College of Education, 4600 Kristiansand S.

HIGHER EDUCATION IN NORWAY

County	Educational Institutions
	Agder Conservatory of Music, Østre Strandgt. 17 A, 4600 Kristiansand S. West Agder College of Nursing, 4600 Kristiansand S.
Rogaland	Rogaland Regional College, Postboks 2540 Ullandhaug, 4001 Stavanger. Stavanger College of Education, Postboks 2521, 4001 Stavanger. Rogaland Conservatory of Music, Bjergsted, 4000 Stavanger. Stavanger College of Engineering, Rogalandsgt. 44, 4000 Stavanger. Haugesund College of Management, Strandgt. 106, 5500 Haugesund. Special College of Psychiatric Nursing, Schiøtzgt. 5-7, 4000 Stavanger. Haugesund College of Nursing, 5500 Haugesund. Stavanger Red Cross College of Nursing, Rogalandsgt. 51, 4000 Stavanger. Stavanger Women's Guild's College of Nursing, Mialdaveien 13, 4000 Stavanger. College of Mental Nursing, Nærlandsheimen, 4350 Nærbo. College of Physiochemistry for the Counties of Rogaland and Agder, Rogaland hospital, 4000 Stavanger. Stavanger College of Social Science, Mølleggt. 66, 4000 Stavanger. The Missionary College, 4000 Stavanger.
Hordaland	The University of Bergen, Postboks 25, 5014 Bergen. The Norwegian Teachers' Academy for the Study of Divinity and Education, Amalie Skramsv. 3, 5000 Bergen. The Norwegian College of Economics and Business Administration, Helleveien 30, 5000 Bergen. Bergen College of Education, Landåssvingen 15, 5030 Landås. Stord College of Education, 5414 Pommelveit. Bergen Conservatory of Music, Olav Kyrresgt. 59, 5000 Bergen. Bergen College of Engineering, Lars Hillesgt. 34, 5000 Bergen. Bergen College of Handicraft, Stromgt. 1, 5000 Bergen. Haukeland College of Nursing, Haukelandsbakken 45, 5000 Bergen. Betanien College of Nursing, Vestlundveien 9, 5033 Fyllingsdalen. Bergen Nursing Sisters' College of Nursing, Ulriksdal 8, Haraldsplass, 5000 Bergen. Stord College of Nursing, 5400 Stord. Bergen College of Mental Nursing, Postboks 2231, 5001 Bergen. Special College of Psychiatric Nursing, Postboks 2231, 5001 Bergen. State College of Midwifery, Sundtsvei 57, 5050 Nesttun. State College of Physiotherapy Møllendalsveien 6, 5000 Bergen. Laboratory College, Haukeland Hospital, 5000 Bergen. College of Radiography, Haukeland Hospital, 5000 Bergen. West Norwegian Academy of Art, Bryggstredet, 5000 Bergen.
Sogn &	Sogn and Fjordane Regional College, Postboks 39, 5901 Sogndal.

ANNEX 1

County	Educational Institutions
Fjordane	Sogndal College, Postboks 39, 5801 Sogndal. Sogn and Fjordane College of Nursing, 6800 Førde.
Møre & Romsdal	Møre and Romsdal Regional College, Postboks 308, 6401 Molde. Møre and Romsdal Regional College Postboks 188, 6101 Volda. Volda College of Education, 6100 Volda. Møre and Romsdal College of Engineering, Fogdegården, 6000 Alesund. Alesund College of Nursing, Postboks 40, 6017 Åsestranda. The Nursing College of the National Association and the County of Møre and Romsdal, Glomstuveien 33, 6400 Molde.
South Trøndelag	The University of Trondheim, Håkon Magnussonsgr. 1b, 7000 Trondheim. — The Norwegian College of Advanced Technology, Høgskoleringen 1, 7034 Trondheim-NTH. — The Norwegian College of Education, 7055 Dragvoll. Trondheim College of Education, 7000 Trondheim. Queen Maud's Memorial Foundation, Th. Owerensgt. 18, 7000 Trondheim. Trøndelag Conservatory of Music, Nedre Bakklundet 75, 7000 Trondheim. Trondheim College of Economics, 7000 Trondheim. South Trøndelag College of Nursing, Håkon Jarlsgt. 17, 7000 Trondheim. South Trøndelag College of Mental Nursing, 7060 Klæbu. College of Physiochemistry for the Trøndelags and Møre & Romsdal Gunnerusgt. 1, 7000 Trondheim. College of Ergotherapy, Prinsensgt. 8b, 7000 Trondheim. State College for Health Visitors, Eirik Jarlsgt. 4, 7000 Trondheim. South Trøndelag Special College of Psychiatric Nursing, 7000 Trondheim. Trondheim College of Social Studies, Lade Gaard, 7000 Trondheim. Trondheim College of Art, Aasta Hausteens vei 22, 7000 Trondheim.
North Trøndelag	North Trøndelag Regional College. Lævanger College of Education, 7600 Levanger. Namdal College of Nursing, 7800 Namsos. Innherad College of Nursing, 7600 Levanger.
Nordland	Nordland Regional College, Postboks 309, 8001 Bodo. Bodo College of Education, 8000 Bodo. Nesna College of Education, 8700 Nesna. Narvik College of Engineering, Postboks 385, 8501 Narvik. Nordland County College of Nursing, Leiteveien 7, 8000 Bodo. Special State College of Psychiatric Nursing, Neståsen, 8000 Bodo.

HIGHER EDUCATION IN NORWAY

Country	Educational Institutions
Troms	The University of Tromsø Postboks 633, 9001 Tromsø. Tromsø College of Education, 9000 Tromsø. North Norwegian Conservatory of Music, Grønneggt. 103, 9000 Tromsø. College of Accountancy in Tromsø, Trollbakken 3, 9000 Tromsø. Troms Management Studies, 9000 Tromsø. Red Cross College of Nursing for Northern Norway, Asgardveien 9A, 9000 Tromsø. State College for Health Visitors, Neståsen, 8000 Bodø. Tromsø College of Physiochemistry, Postboks 879, 9001 Tromsø. Radiography Branch, Brevika Upper Secondary School, Postboks 287, 9001 Tromsø.
Finnmark	The College in Alta 9310 Elvebakken. Finnmark College of Nursing, 9400 Hammerfest.

ANNEX 2

University and College graduates 1971/72. — 1978/79

Type of Education	TOTAL				PERCENTAGE OF WOMEN			
	71/72	76/77	77/78	78/79	71/72	76/77	77/78	78/79
Cand. Mag. lower degree	1,138	1,522	1,507	1,519	20.5	33.6	30.2	40.4
Humanities	648	849	846	778	41.8	50.9	50.9	58.0
Social Sciences	107	137	171	167	18.7	33.6	36.8	42.5
Natural Sciences	403	516	488	574	15.4	29.2	19.9	18.6
Interfaculty	—	20	—	—	—	35.0	—	—
Cand. Philol. higher degree	280	351	361	329	33.9	41.8	42.6	45.6
Cand. Polit. higher degree	24	70	85	73	20.8	18.6	18.5	16.4
Magister Artium	58	62	61	52	28.8	32.3	31.2	30.8
Cand. Theol. higher degree	74	106	85	100	8.1	7.6	10.6	8.3
Education higher degree	—	14	13	22	—	14.3	20.5	31.8
Cand. Paed. higher degree	11	19	9	18	38.4	57.9	33.3	61.1
Music — lower degree	—	37	32	42	—	43.2	43.8	28.6
Music — higher degree	—	6	14	5	—	50.0	35.7	80.0
Pictorial Art	9	16	28	28	66.7	37.5	50.0	50.0
Economics and Business Administration	195	177	199	184	5.6	7.9	12.1	10.3
Economics and Business Administration higher degree	12	12	13	12	16.7	—	7.7	—
Cand. Oecon. higher degree	87	85	62	62	5.7	3.5	6.4	9.7
Cand. Psychol. higher degree	83	103	72	75	49.8	32.0	40.3	32.0
Cand. socion. higher degree	—	1	5	4	—	—	—	100.0

HIGHER EDUCATION IN NORWAY

Type of Education	TOTAL				PERCENTAGE OF WOMEN			
	75/76	76/77	77/78	78/79	75/76	76/77	77/78	78/79
Cand. Sociol. higher degree	8	10	20	23	62.9	40.0	40.0	43.5
Cand. Jur. higher degree	193	378	440	404	7.3	16.1	17.5	22.5
Physical Education	—	9	11	20	—	53.3	18.2	35.0
Cand. Real. higher degree	280	327	331	329	8.9	20.2	16.0	19.4
Actuarial Science higher degree	8	7	7	14	12.5	28.6	28.6	7.1
Civil Engineering	379	649	631	629	3.9	3.7	5.2	6.8
Architecture	57	74	98	74	10.5	14.9	36.7	27.0
Industrial fishing	—	11	—	8	—	—	—	12.5
Nutrition	11	17	20	17	72.7	70.6	85.0	64.7
Agriculture	152	137	153	155	3.9	10.9	22.2	18.1
Medicine	389	387	364	470	16.3	17.8	22.2	25.5
Dentistry	155	143	124	112	25.2	28.0	37.9	31.3
Pharmacy	33	40	38	34	75.8	70.0	60.5	55.9
Veterinary medicine	35	38	43	56	8.6	26.3	23.3	25.0
Licentiate and doctoral degrees	137	197	155	168	5.1	5.6	9.0	9.5
Regional College graduates	131	453	607	533	6.9	27.2	31.6	33.2
Economics and Administration								
Regional College graduates	119	199	215	199	7.6	20.6	20.0	26.1
Nursery school training	287	869	1,043	934	99.6	94.7	92.8	90.6
Teacher training 2-year and 4-year courses	1 843	813	52	52	56.3	61.7	61.5	57.7
3-year teacher training	242	1,064	1,342	1,561	56.2	59.2	61.6	61.1
Librarianship	67	93	102	104	88.1	83.9	80.4	86.5
Social work	256	196	254	242	62.4	57.1	67.1	71.5
Child welfare	68	83	78	47	64.7	68.7	66.7	70.2
Local government	44	30	27	22	13.6	43.3	14.8	50.0
Business Administration lower degree	193	184	150	98	1.3	8.7	6.7	17.3
Engineering	1 845	2,009	2,101	2,154	7.3	7.1	8.3	8.7
Physiochemistry	—	149	164	112	—	86.6	87.8	88.4
Dispensing	20	32	32	46	75.0	87.5	87.5	91.3
Physiotherapy	138	130	48	133	90.6	72.3	83.3	81.9
Ergotherapy	—	—	29	33	—	—	100.0	100.0
Basic Nursing	1 352	1,465	1,485	1,476	94.2	89.0	87.4	85.5
Basic mental nursing	33	103	42	59	71.7	67.0	47.6	71.2
Radiography	12	62	45	75	66.7	80.6	68.9	68.0

ANNEX 3

NORWAY



BEST COPY AVAILABLE

OTHER CEPES PUBLICATIONS

NEW FORMS OF HIGHER EDUCATION IN EUROPE

(Report on a symposium organized at CEPES, 13—15 January 1976. Articles are written in English, French or Russian).
Bucharest, 1976, Bibliogr., 185 p.

THE CONTRIBUTION OF HIGHER EDUCATION IN EUROPE TO THE DEVELOPMENT OF CHANGING SOCIETIES

(Report on a symposium organized at CEPES, 21—23 Sept. 1976. Articles are written in English, French or Russian).
Bucharest, 1977, Bibliogr., 179 p. (Out of print)

STATISTICAL STUDY OF HIGHER EDUCATION IN EUROPE 1970—1975

(In English and French) Bucharest, 1978, 192 p.
(Out of print. New updated edition under preparation).

CONSULTATION FOR THE PREPARATION OF A STUDY ON ACCESS TO HIGHER EDUCATION IN EUROPE

(Report on a symposium organized at CEPES, 18—20 October 1977. Articles are written in English, French or Russian).
Bucharest 1978, Bibliogr. 191 p.

ACCESS TO HIGHER EDUCATION IN EUROPE

Bucharest, 1981, 90 p. (also available in French and Russian)
ISBN 92-3-101942-2

INTERUNIVERSITY CO-OPERATION IN THE EUROPE REGION

Bucharest, 1981, 80 p. (also available in French and Russian)
ISBN 92-3-101941-4

L'ENSEIGNEMENT SUPERIEUR EN ROUMANIE

Bucharest, 1973, 105 p. (in French only)

DIRECTORY OF HIGHER EDUCATION RESEARCH INSTITUTIONS

prepared by CEPES, Bucharest. Published by IBE, Geneva, 1981, 139 p. Ind2x

DISTANCE EDUCATION FOR THE UP-DATING OF KNOWLEDGE AT POSTGRADUATE LEVEL

Report on a symposium organized by CEPES.
(Articles are written in English or French).
Bucharest, 1982, Bibliogr., 113 p.

HIGHER EDUCATION AND MAN-POWER PLANNING

A comparative study of planned and market economies
(O. Fulton, A. Gordon, G. Williams ed.)
A joint project undertaken by the ILO and Unesco Centre for Higher Education (CEPES)
Published by ILO, Geneva, 1982, Bibliogr., 127 p.
ISBN 92-2-102973-5

INTERDISCIPLINARITY IN HIGHER EDUCATION

A study established by Thor Einar Hanisch following a symposium organized by the European Centre for Higher Education in Bucharest, 24—26 November 1982.
Bucharest, 1983, Bibliogr. 107 p.

To obtain these publications please write to :

European Centre for Higher Education

39 Știrbei Vodă
Bucharest, Romania

MONOGRAPHS

ON HIGHER

EDUCATION

1. L'enseignement supérieur en Suisse (French, 1981)
2. Higher Education in the United States (1982)
3. Higher Education in Norway (1983)
4. Higher Education in Bulgaria (1983)
5. Higher Education in the German Democratic Republic (1983)
6. Higher Education in the Byelorussian SSR (1983)